

# The Mining And Metallurgical Journal

VOL. XIX. NO. 9

LOS ANGELES, CAL.,

August 1, 1898,

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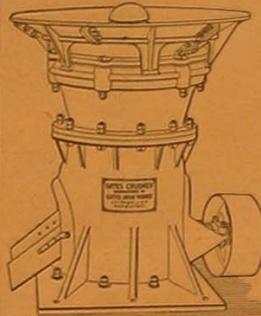
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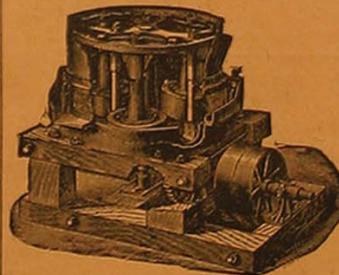
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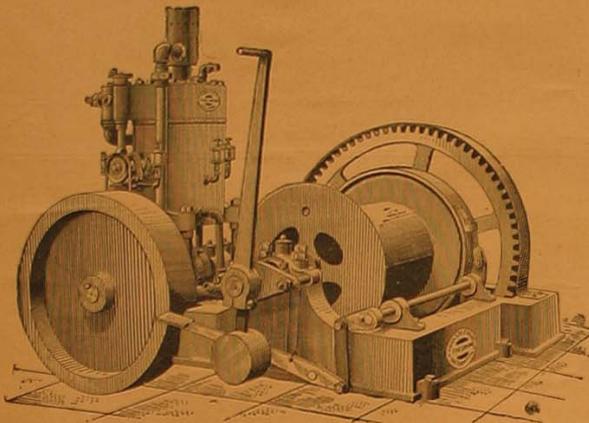
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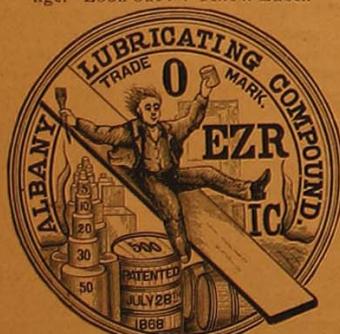
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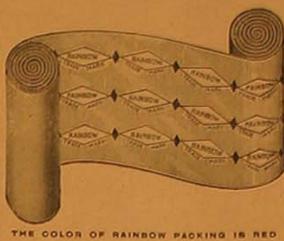
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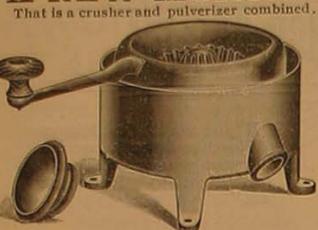
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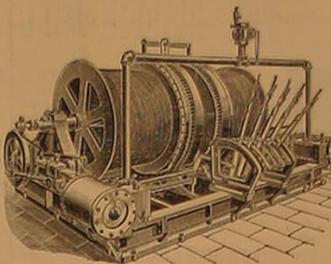
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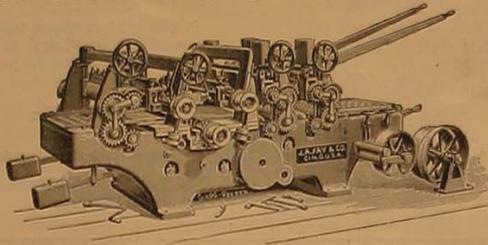
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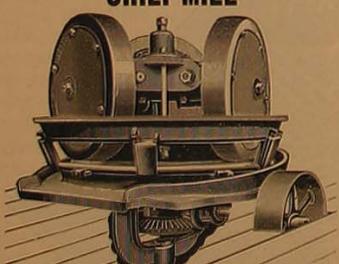
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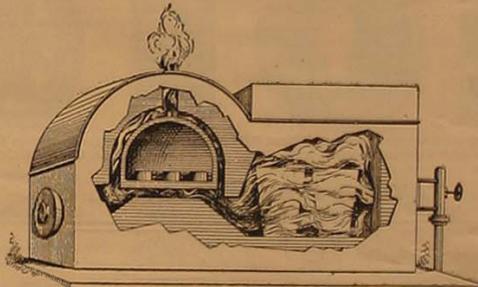
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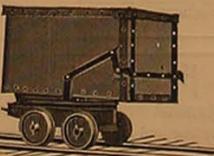
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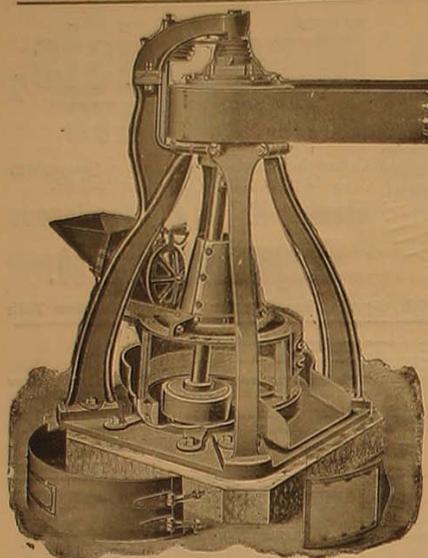
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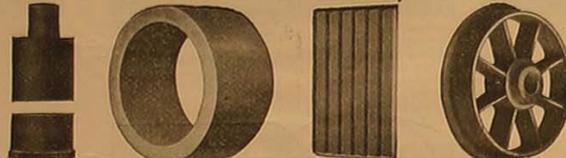
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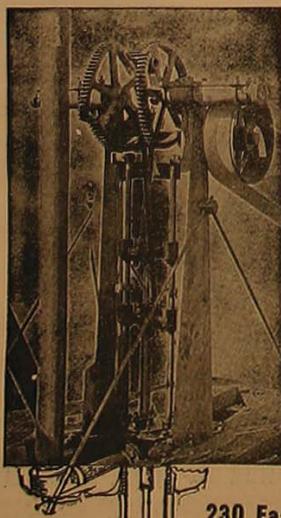
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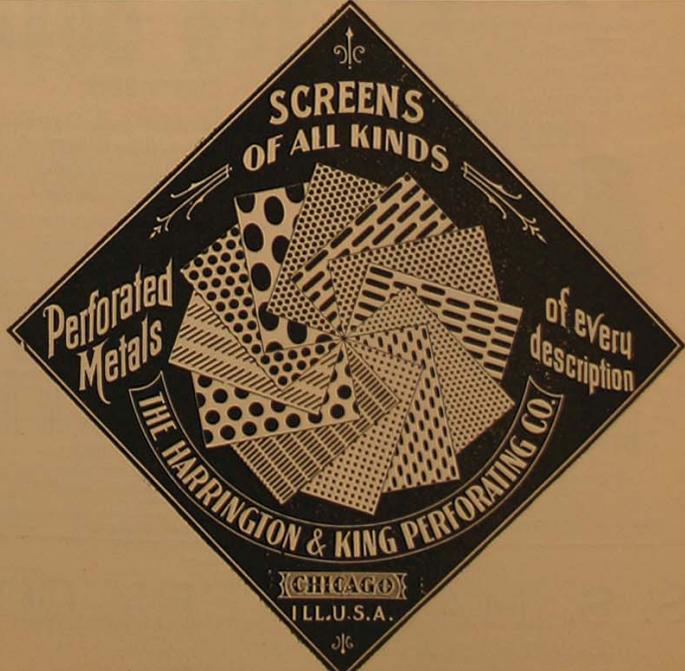


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# The Mining And Metallurgical Journal

ENTERED AT THE POST OFFICE AT LOS ANGELES, CALIFORNIA  
AS SECOND CLASS MAIL MATTER.

VOL. XIX. AUGUST 1, 1898. NO. 9.

F. W. EDELSTEN, Editor.

JOHN STEWART, Special Contributor.

ULRICH KNOCH, Publisher

OFFICES | Stimson Block, Los Angeles, Cal.  
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## FRAUDULENT MINING PROMOTIONS.

One of the principal causes of the lack of capital for mining investment is found in the false representation by supposed honorable and competent engineers. That there is an abundance of capital seeking legitimate mining investment, both in this country and abroad, there is no doubt; but, owing to the numerous worthless properties which have been in the past placed upon the market only to pay dividends into the pockets of promoters. Capital has been wary of seeking investment. During the past two or three years, the mining profession has been recruited from all classes and conditions of men. Men who a short time ago were humbly following the vocations of butchers, bakers, cooks, policemen, barbers, railroad men, etc. Presto, they are now all *mining experts*. It is to this class in general who are to be blamed for the present conditions and failures. Anxious to make a quick turn, they do not stop to consider conscience or consequences. Their sole aim seems to be to obtain the elusive dollar, no matter how, and they will make a favorable report on an entirely worthless mine as quickly and deftly as they would have in their former occupations put a bad piece of leather into a shoe or served a customer with a rubber beefsteak. Ability, as a rule, troubles these gentry but little. Superior gall, coupled with a pair of good workable jaws, carries them through, and, where knowledge is lacking, the above requisites make up for it. That a number of these embryo *experts* are honest and labor patiently with the mining problems goes without saying, and failure on their part can be ascribed to inexperience, but they are in the minority. The capitalist, looking for a venture, in all probability does not know the difference between a crosscut and a crosscut saw, and he is entirely dependent on the mining engineer. Should he be careful in his inquiry, and seek his information from mining men, he will probably get into the right hands, but should he rely too much on the statement often made by acquaintances that he's a jolly good fellow, irrespective of his ability, he is liable to run up against the "embryo expert" who, in flowery language of formations, geology, developments, etc., will lead him to believe that such a learned man never existed, and should he be so unfortunate as to entrust his pocketbook into this worthy's hands, he will soon join the army of disgruntled manipulators who are always willing to condemn mining as a fraud.

## MINING IN CALIFORNIA.

A great many people who know nothing about mining and let their imagination get the better of their judgment, believe mining is an occupation to be avoided; that the whole industry is one of fraud, but the facts given below will do much to deflect these imaginings. However, it is necessary, to accomplish beneficial results, to have a practical education in the fundamental principles of the science and that it be carried on by men inured to hardships—and with mining experience to back it up. True, it might be stated, occasionally a "tenderfoot" uncards a bonanza—but it is generally the exception and not the rule. Were these unsophisticated, would-be miners, gleaned from behind counters and offices, given an opportunity to first master the rudiments of a mining education, it would be better for their future welfare. California has yet within its bounds miles of unprospected territory, undoubtedly rich in mineral, which would offer a field for these embryo miners to practice upon. The field exists—from Siskiyou to San Diego—but while mining has been carried on in a more general way north of the Tehachapi, Southern California offers plenty of room to the prospector, and a good field for the mining investor. Until recently our most important industry has been sadly neglected. We have given too much attention to advertising our citrus fruits and climate, and have allowed the mining industry to stay in the background. Over three-fourths of the total area of Southern California lies within the mineral zones—and when we consider that only a very small portion of this area is at present being mined, its possibilities in the future would lead one to believe that ere long mining will be classed as one of our principal industries. With the erection of smelters at some point on the sea coast adjacent to Los Angeles, a cheaper reduction of ores would be possible for our adjacent mining territory and thus stimulate the industry and enable a larger number to operate than at present. I say the erection of smelters at a sea coast point and, I think, advisedly. The fuel and ore transportation to a point where it would be unnecessary to rehandle make it the most economical point. With the competition of San Francisco, El Paso, Pueblo and Denver—with their millions of dollars of investment in smelting properties—the matter of an economical method of handling ores and fuel should be considered.

It may not be generally known, but the iron deposits of Southern California will compare favorably with other localities, and within easy reach of railroads. The principal cause of their remaining in idleness is the question of fuel. At the present time, owing to the cost of solid fuel, our iron ores cannot be smelted and brought in competition with the eastern and southern product. It is possible that with the introduction of new methods of treatment the immense deposits now idle will furnish employment for thousands.

That there are many other forms of mines other than gold and silver to be yet developed is unquestioned. The average prospector has generally given these two metals his sole attention. Only recently a promising find of turquoise was discovered in an adjoining county, and experts have pronounced the gems so found to compare favorably with other deposits unearthed in this country.

Before electricity had made such a demand upon the copper market, little attention had been paid to this metal. A large number of copper discoveries have been made during the

past year, and with recent new methods of economical reduction of the ore, a number of new properties are being opened.

Some of the largest lead deposits in this country lie within the State's southern border—yet owing to their great distance from railway transportation and the great distance necessary to transport them to a market, it is not at present feasible to work them. With the extension of railway facilities, thousands of tons of desirable fluxing ore will be obtainable.

As a field for mining investment, California offers better opportunities than other states and territories, particularly as regards climatic conditions, fuel, timber, water, etc. Legitimate mining is now looked upon as a business proposition, whereas, in the past, it was considered little better than a gamble. I know of cases where men of business connected with mining affairs refused to allow their names to be used in connection with a mine, stating as a reason therefor that their standing would be injured were the facts known.

The prejudice against mining investments has, until of late, been very great, and it is just beginning to be realized that there is no better field for judicious investment which will yield as handsome a profit.

It must not be inferred by the intending investor that every hole in the ground is a mine—which is too often the case. The investment in mining property should be conducted with the same caution that one would exercise in any business investment. But how often do otherwise good business men invest their capital in anything that comes along, without giving it due consideration expend a few thousands, perhaps, on some unproductive prospect, and then forever after curse mining, and call it a delusion and a snare, or, perhaps buy up a worthless lot of shares in some stock company, lose their all, and lay it all to what they call legitimate mining.

We need manufactures they tell us to make our city more thriving. To create them, we must first also create consumers; to do this, we must apply ourselves to the hidden treasures surrounding us. Show me prosperous mining camps, and I will show you prosperous cities adjacent to them, with a better class of trade and a higher price paid for products than from any other industry.

## A NEW CURRENCY MEASURE.

The Banking and Currency Committee of the House of Representatives has introduced a bill which is declared to be intended "to eliminate all government paper money from circulation, and to substitute therefor bank currency, based purely upon assets, without either bonds or reserve notes."

This measure is different from that of Mr. Gage, which proposes to have paper money issued by national banks, based on bonds, the notes being guaranteed by the government, and primarily redeemable with gold coin by the banks, and in the end by the government, if the banks should fail to keep their obligation to do so, which is much better than that of the Banking and Currency Committee, in that it protects the bill-holder beyond question.

The committee's measure is in effect a resuscitation of the ante-bellum state bank system, except that there will be uniformity of currency, while, under the old bank system, there were as many varieties, and even more,

than there were states, not only in the form and character of the notes, but in the requirements relating to the security.

The older inhabitants of this country remember too well the disadvantages of the old system to be favorable to it. Under it losses to bill-holders were in various ways, and to a very damaging extent. The public generally had no knowledge of the solvency of the banks, and no man wanted to risk keeping any amount of money in his pocket. Counterfeiting would not be resorted to probably as much as then, but the status of banks would again require the existence of bank note reporters, in order to give information as to the solvency of the vast number of banking institutions that would be established. The notes of weak banks would go to discount, and, judging from experience, they would put their notes out as distant from home as possible.

The States cannot make anything but gold and silver coin a legal tender, and it would be presuming too much to suppose that the general government would make notes whose security was assets merely a legal tender. Notwithstanding the national bank notes are secured by bonds, and indorsed by the general government, and are ultimately redeemable with gold, they have never been made legal tender. It does not seem that the committee's bill can ever become law, even in a modified form.

There is a repugnance in the minds of a very large class of the American people to conferring the power upon corporations or individuals to supply the country with paper circulation, even under the most rigid restrictions and upon giving the most undoubted security, for the reason that there is selfishness in all human natures, and, consequently, it is dangerous to commit to interested parties the power to regulate the volume of money, to expand or contract as their interests may dictate.

Issuing notes is not legitimate banking, for it comprises simply the business of receiving deposits, loaning money, and selling exchange. Regulation of the volume of the circulating medium, in the opinion of the masses, should be solely exercised by the government which is the general agent of the people, and under the direct control of the people.

Until the war, and the problems evolved from it, are out of the way, it is not probable that any definite action will be taken on the money question. In the meantime, it is a subject that should be given thought, that when the time comes for action, revision may be intelligently made and as promptly as possible.

Agitation of economic questions, whether financial, industrial or commercial, tends to create uncertainty, and, consequently, disturbs business and restrains enterprise. Nothing has this effect more than an unsatisfactory money system.

The bill introduced by the Banking and Currency Committee, if enacted, would produce a want of confidence from the fact that the security of the assets merely would be deemed inadequate, and the people would accept the notes of the banks organized under such an act with the greatest reluctance. Any system in which the people have faith in the safety of the notes would be better than the one the committee proposes.

There were about 5,700 mining companies incorporated in Colorado from January 1st, 1893, to December 31st, 1897 inclusive.

### Graphite as a Lubricant.

The development of high speed and great power machinery of the day has made the question of successful lubrication more serious than ever before. The compound engines, the great motors, the heavy shaft lines and gears, now so common in the large power plants and mills, present many new questions of friction and lubrication.

With superheated steam and high pressure there is difficulty in properly lubricating steam cylinders and valves.

Under these conditions, pure flake Graphite has solved so very many of the problems that it would seem to be the key to solve many others. A prominent engineer once said, "The more solid the lubricant that can be used in any place, the better the lubrication"; and Dixon's Ticonderoga Graphite is a solid flake Graphite of marvelous smoothness, toughness and endurance. It greatly increases the life and lubricating value of any oil, tallow or grease to which it is added.

During the past few years the sale of this particular Graphite has more than doubled. It has been thoroughly tested on locomotive engines, with results surprisingly satisfactory to even the strongest advocates of Graphite lubrication.

It must be borne in mind at all times that the difference between a perfectly pure Graphite and one almost pure, but still totally unfit for lubricating, cannot be detected by either sight or touch; the buyer's only guarantee of purity is the name and reputation of a responsible manufacturer.

Two conditions of success, so far as Graphite in engine or general lubrication is concerned, are: the Graphite must be absolutely pure and free from grit, and the flake of uniform size.

Send to Joseph Dixon Crucible Co. of Jersey City, N. J., for their pamphlet on the subject, sixth edition revised.

### Colorado Dividend Payers.

The following is a list of the principal dividend paying mines, the amount and total dividends paid, together with date of same:

Associated Gold M. Co., dividend No. 1, 1c. per share. Amount, \$12,500.

Anchoria-Leland, 1c. per share, monthly, payable on 15th; total dividends to date, \$144,000. Dividend No. 24, of \$6,000.

Argentum-Juniata, 3c. per share, monthly, last dividend November, 1895; total dividends paid, \$156,000; about \$160,000 in treasury.

Bangkok-Cora Bell, 1c. per share, irregular; total paid, \$107,510.

Big Six pays ½c. per share May 25, 1898. Total, \$15,000.

Commodore, \$120,000, first dividend, 1c. per share; paid July 1, 1898.

Elkton dividend 1½c.; paid July 12; present dividend, \$18,750; total, \$555,710.

El Paso Gold, payable on the 10th, Last dividend paid December 10th, 1897. Total paid, \$11,893.

Enterprise paid one dividend of \$3,500.

Garfield-Grouse, 1c. per share, Feb., 1897. Total paid, \$24,000.

Gold Coin, dividend No. 8, 1c.; amount, \$10,000. Total, \$80,000. Paid June 25, 1898.

Golden Fleece, varying from 1c. to 3c. per share, payable monthly on 15th; total paid, \$569,179. Last dividend paid Feb. 15, 1897.

Gold and Globe Hill, \$3 per thousand shares, monthly; last dividend July, 1897; total paid, \$52,625.

Iowa (Silverton) dividends paid, \$90,000;

½c. per share. Last dividend, June 17, 1898.

Isabella, ½c. to 3c. per share, quarterly, payable on 25th; amount of last dividend, ½c. Total paid, \$270,000; \$100,286.47 in treasury July 1, 1897.

Lillie, sixth dividend, 1c. per share cash; paid July 1, 1898. Cash dividend, \$9,000; total, \$98,100.

Mahala, 2c. per share, monthly; total paid, \$650,000.

The Mahala Mining Company is rapidly getting its interior shaft into the large ore bodies, and will soon be in readiness for stopping the Maid of Erin and Wolfstone workings adjoining, and which are making an overflow of about 300 gallons per minute and is handled by the Robert Emmett pumps.

Marion Consolidated, paid royalties \$234,702.80 in less than two years.

Mt. Rosa has paid \$60,000 in dividends; has \$45,000 in treasury. Last dividend, January, 1898.

Modoc (Cripple Creek) dividend No. 3, 4c. per share on \$500,000 capitalization; amount paid, \$20,000; payable about the 15th. Total \$45,000.

Mollie Gibson, last dividend January, 1895; total paid, \$4,080,000; about \$90,000 in treasury.

Moon-Anchor, dividend No. 16, 2½c.; paid May 2, 1898, \$15,000; total, \$171,000. Future payments will be quarterly.

Moose, 1c. per share. Last dividend paid Feb. 10th, 1896. Total, \$186,000.

Nugget, total dividend paid, \$15,000; last dividend, April, 1896.

Pharmacist paid \$84,000 in dividends; nothing for over three years.

Portland from 1c. to 3c. per share, monthly, payable on 15th. Total, \$1,537,080. Last dividend paid May 15, 1898. Dividend, \$45,000. Dividend No. 42.

Princess, ½c. per share, irregular; total paid, \$45,000, Feb., 1897.

Raven, second dividend, 1c. per share, payable March 1, 1898; amount paid, \$20,000.

Smuggler, of Aspin, fifty second dividend paid, \$10,000, July, 1898. Total paid, \$965,000.

Tom Boy, \$20,000 per month. Total paid, \$600,000.

Union, 1c. per share, monthly, payable on 15th; total paid, \$73,000 and a ten per cent. stock dividend. Last dividend, June 15, 1896.

Union Leasing (Leadville) 4c. per share, monthly; last dividend July, 1895. Total paid, \$340,000.

Victor, 10c. per share, monthly, payable June 1st; total paid, \$955,000, with \$51,525 in treasury.

Vindicator; a dividend of five cents per share will be declared and paid by the company this month. This will amount to something over \$50,000 in all; the amount of stock issued slightly exceeding 1,000,000 shares. The capitalization of the company is 1,500,000 shares, but nearly 500,000 yet remain in the treasury. When the dividend will have been paid, there will be in the neighborhood of \$40,000 also in the treasury. This will be the second quarterly dividend paid out to Vindicator stockholders, and will bring up the total disbursement to over \$75,000. The property is splendidly equipped, has very large bodies of high grade ore in sight, and is making a heavy output. The gross production last month was over \$52,000.

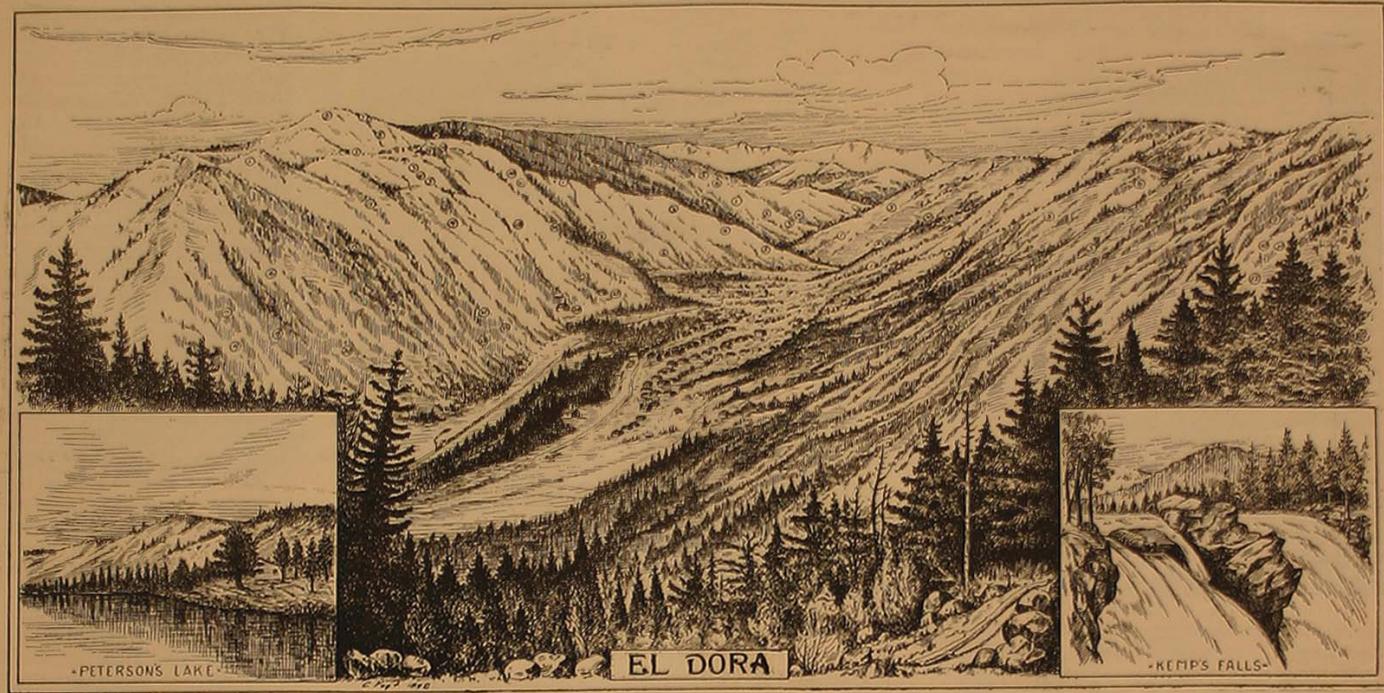
Eira mine at Tuscarora, Nev., is producing ore showing a gold value of \$600 per ton, with a ten foot vein of \$20 ore exposed on the upper levels.

Spencer Mountain.

Bryan Mountain.  
Ute Mountain.Guinn Mountain.  
Chittenden Mountain.

Mineral Mountain.

Eldora Mountain.



SPENCER MOUNTAIN.—1.—Bonanza. 2.—Clara. 3.—Birdsnest. 4.—Delaware. 5.—Virginia. 6.—Gentle Annie. 7.—Jessie. 8.—Bobtail. 9.—Village Belle. 10.—Gold Coin. 11.—Enterprise. 12.—Little Charley. 13.—Memphis. 14.—St. Louis. 15.—Protection. 16.—Ida I. 17.—Mildred Belle. 18.—Lucky Star. 19.—April Fool. 20.—White Pine. 21.—Puzzler. 22.—Lady Allis. 23.—O. K. 24.—Mogul Tunnel. 25.—Populist Tunnel. 26.—Enterprise Extension. 27.—Black Beauty. 28.—Grover Cleveland. 29.—Uncle Sam.  
UTE MOUNTAIN.—1.—Happy Jack. 2.—Little Stranger. 3.—Village View. 4.—Pure Stuff. 5.—Fisher. 6.—Nancy Hanks. 7.—Somerset.  
BRYAN MOUNTAIN.—1.—Norway. 2.—Columbine. 3.—Great Eastern. 4.—X-Rays.  
GUINN MOUNTAIN.—1.—Reserve. 2.—Revenge.  
CHITTENDEN MOUNTAIN.—1.—The Denver Group.  
MINERAL MOUNTAIN.—1.—Helena W. 2.—Mineral Chief.  
ELDORA MOUNTAIN.—1.—News Boy. 2.—Wilmington.  
11.—Rhoda Moore,

### COLORADO THE GREAT.

The long continued success of the great gold mines of Colorado has done much to attract the attention of the investing capitalists toward that State and to establish confidence in the large low-grade gold-bearing veins and small high-grade tellurium veins found nearly all over the State. Cripple Creek, though only a few years old, has made a world-wide record by the production of over \$12,000,000 in gold in one year—1897. Cripple Creek mines are paying dividends at the rate of over \$2,000,000 per annum. Total dividends to date, \$5,000,000; total output about \$38,000,000. New discoveries in different parts of

the state have opened up new districts which, in turn, have attracted the attention of mining men all over the world.

Through the courtesy of Mr. E. G. Reinert, the manager of *Ores and Metals*, of Denver, we have been able to secure excellent illustrations and valuable matter for this description of Colorado's mineral resources.

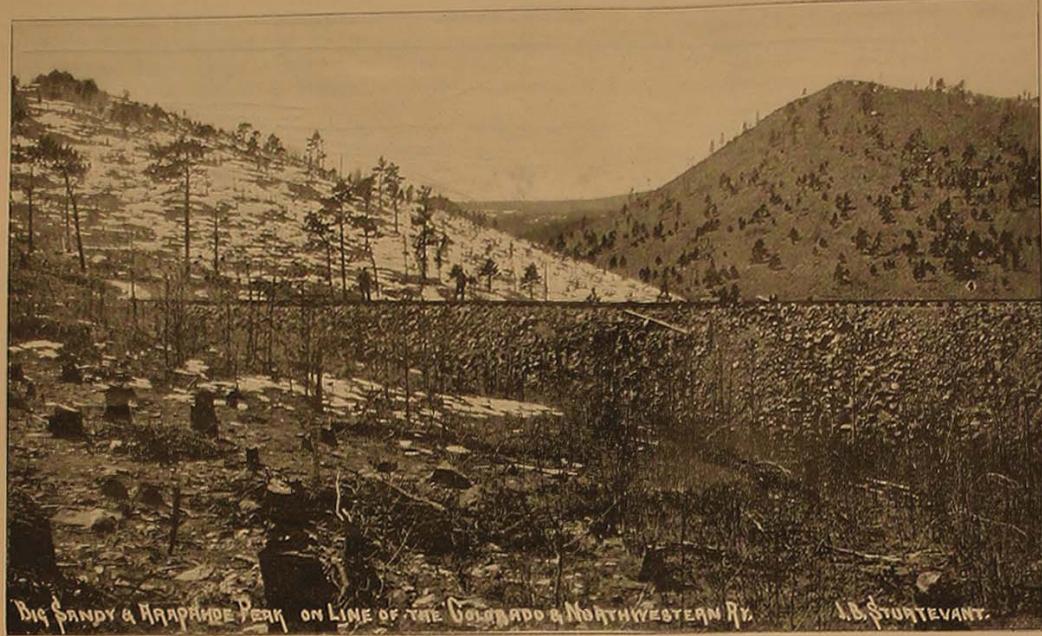
*Ores and Metals* is a monthly journal devoted to the mining, milling and smelting industry of the Rocky Mountains region, and contains complete information in condensed form of all mining operations of the state. It goes to all the large and small towns, mining camps and isolated mines in the state of Colo-

rado, where it is read by merchants, miners, manufacturers and capitalists of the highest standing.

### GOLD HILL.

The earliest discoveries of gold in Colorado were made in the immediate vicinity of Gold Hill, one of Boulder county's richest camps, both in the form of placer and lode claims. Among the earliest producers was the old Horsfall mine, in which a surface shoot of free gold ore was struck that paid handsomely in the small, crude stamp mills of that date, whose percentage of saving was so low that the actual value of the raw ore before going into the mill must necessarily have been very





large in order to leave any profit after the milling. Like most all of the ores in Boulder county, however, their free-milling qualities are lost with depth, and as the miners in those days knew nothing of any process of recovering values outside of the arrastra and stamp mill, they immediately deserted a mine as no good when the values ran into sulphides, which required smelting to recover.

#### CARIBOU DISTRICT.

Caribou district, the name now given to the region surrounding the town of that name in Boulder county, shows a remarkable awakening during the past three months. Caribou, Cardinal and Nederland are three towns within a distance of four miles, whose houses four months ago were practically empty; the surrounding country was deserted. Seldom was the sound of blast heard in the hills, and the roads were water-worn and grass-grown. Now the hundreds of houses and cabins, so long deserted, are all occupied. The sounds of blasts revibrate from hill to hill each hour, and life, animation and vigor have taken the place of the years of stagnation. The revival is all due to the discovery of gold. In the days long gone by, which the barnacles call "old days," Caribou was almost a synonymous name for silver. It was the scene of one of the great mining excitements, where no one thought of looking for gold, and the assayer seldom assayed for it.

In the search for gold, which revealed the mines and riches of El Dora, scarcely three miles distant, men began to look over the old mines and prospects of the Caribou region, and found the barren quartz to be very often gold-bearing, and rich enough to pay with the economical conditions now existing. This is the cause of the revival.

Few camps furnish a better ex-

ample of the typical mining camp history than Caribou. The first important vein found in the district was in the latter part of August, 1869, and was called the Caribou, which afterwards gave name and fame to the district. William Martin and George Lytle were the discoverers, though it is often erroneously credited to Samuel Conger. The latter, with Sam Mishler, Hugh McCammon and John Pickel, were all partners, the three latter having furnished the grub stake. About the same day the Caribou was staked, Conger discovered the the Poorman and traded his interests in the Caribou for the interests of his partners in the Poorman.

#### JAMESTOWN.

Jamestown is situated about twelve miles, as the crow flies, northwest of Boulder, at the junction of what are known as Big and Little Jim creeks. It has the honor of claiming at least two mines that have produced the richest gold ore in the history of the state. The first, the Golden Age, after a record of twenty years' production is still at work making an output of the wonderfully rich ore which has made the mine famous. In fact, it produces ore worth \$200 a pound, or 97 per cent. pure. The present manager, L. J. Talbott, says that the mine is yet but a prospect, though the main shaft is down almost 900 feet and there are probably a mile of underground workings.

The other big mine is the John Jay, which has probably produced among the richest tellurium ores yet found, has a history of much interest, but mismanagement has written the word "finis" to its usefulness as an ore producer. It still has plenty of ore, and would be a paying, producing property with the expenditure of some money under proper management.

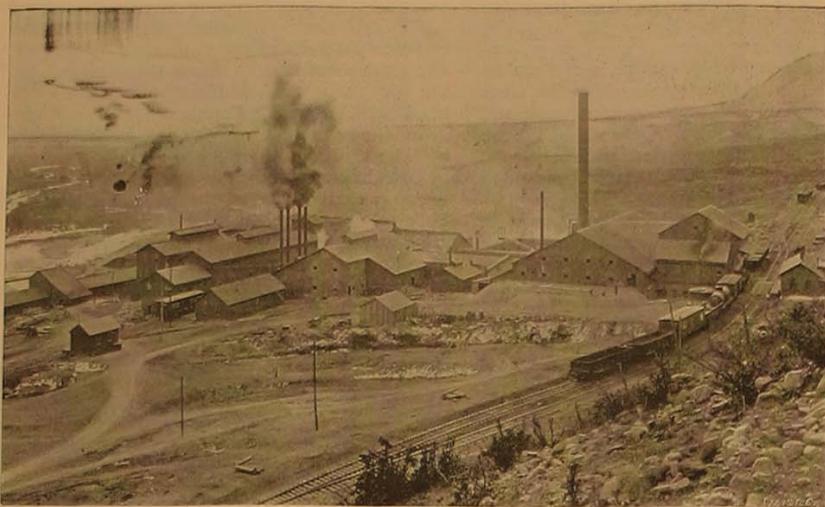
#### GILPIN COUNTY.

It requires but a casual glance to



SAN BLAS MILL, WARD, COLO.





COLORADO AND PHILADELPHIA CHLORINATION PLANT, COLORADO CITY, COLO.

demonstrate the fact that the "old reliable" Gilpin county is still reliable. The old producers, which have given "The Little Kingdom" a world-wide prestige, are still producing and new producers are coming to the front rapidly. Facts are more potent than gilded phrases or choice rhetoric and more interesting to the average investor.

The month of March last the shipments from Black Hawk to Denver, Pueblo and other points aggregated 350 carloads of ore and concentrates. In tonage the amount was 5,600 tons, the largest shipment ever recorded in one month, an increase over the same month of 1897 of 768 tons, and 2,664 tons over 1866.

It is claimed that there are more stamps in operation day and night in Gilpin county than in any other section of the state. The Iron City mill at Black Hawk was the first rapid-drop mill built in Gilpin county. It was constructed by Hendrie & Bolthoff of Denver, and is a model of the kind. The capacity of the mills running is, in round numbers, 510 stamps, distributed as follows: Hidden Treasure, slow drop, 75; Mead, slow-drop, 40; Polar Star, slow-drop, 40; Eagle, rapid drop, 35; Bob Tail, slow-drop, 75; Gilpin, slow-drop, 50; New York, slow-drop, 75; Randolph, slow-drop, 50; Penn, 35 slow and 10 fast; Iron City, fast-drop, 25. The whole number treat about 600 tons every 24 hours. The Rocky Mountain Concentrator is treating 75 tons per day, and the Pueblo Smelting and State Ore Works from 50 to 70, which brings the tonage treated in Black Hawk to about 800 tons, which is certainly a very flattering showing.

## CREEDE CAMP.

The following figures, giving accurately the shipments for the months of January, February, March, April, May and June, show what Creede Camp, Mineral county, has been doing:

SHIPMENTS.		
	Cars.	Tons.
January.....	418	6,270
February.....	549	8,235
March.....	652	9,780
April.....	532	7,980
May.....	546	8,190
June.....	550	8,250
Total.....	3,247	48,705

This total of 3,247 car loads, or 48,705 tons, figured at the minimum, makes:

1,948,200 ounces silver at .57¢.....	\$1,110,474.00
4,870.5 ounces gold at \$20.....	97,410.00
7,305.75 tons lead at \$70.....	511,402.50

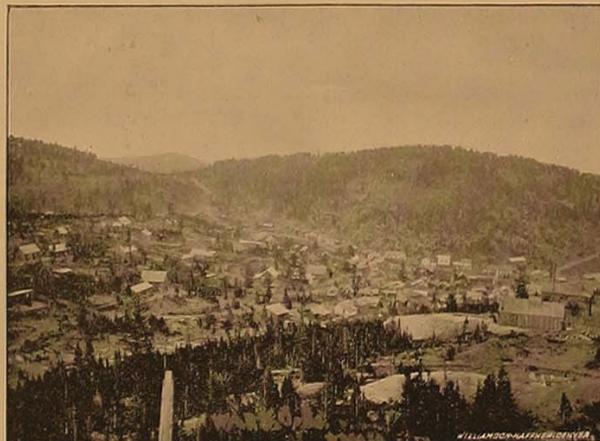
Total product for half year ..... \$1,719,286.50

The total for the year 1897 was 72,352 tons, or \$2,585,736. If the shipments for the balance of the year are equal to the past half, there will be an increase during the present year of 25,058 in tonnage and \$852,857 in values.

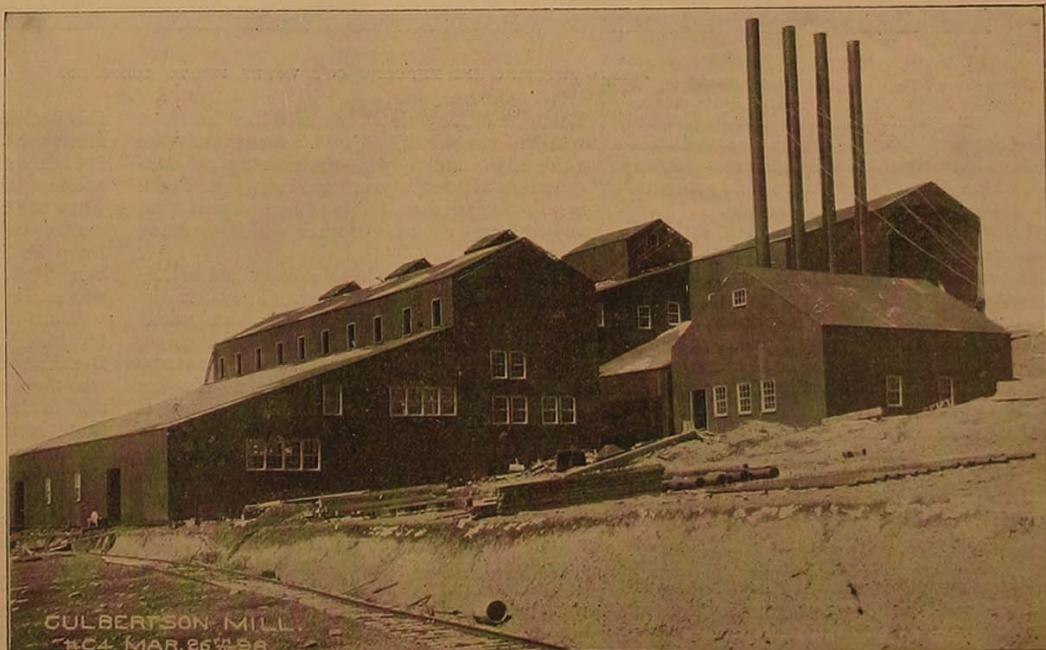
## AN EL DORA ETCHING.

El Dora, the Boulder county Cripple Creek, is the newest excitement in the mining world which promises to make a substantial addition to the mining development in Boulder county, says *Ores and Metals*.

When a rush is started towards a given point people do not reason, they simply rush. The field around El Dora was prospected a quarter of a century ago, chiefly, however, for silver, being in close proximity to Caribou, which about that time was the greatest silver camp of Colorado, and which gave the state a somewhat unenviable notoriety on account of a three million dollar deal by which some of the mining promoters of that day unloaded a property called the Caribou upon a Holland syndicate for the sum named. It is hardly necessary to say that it was a question of but a short time before the Hollander found that, being strangers, they were beautifully taken in. It was, of course, no reflection whatever upon the character of the mining district, but simply an object lesson as to the methods



WARD, COLORADO.

CULBERTSON MILL.  
M.C. MAR. 26 '98.

pursued by men called "prominent" in those days, who were willing to barter their good name for riches.

The history of Caribou demonstrates conclusively that an immense silver belt exists, which, had it not been for the "crime of '73," would have yet been a great producing camp.

Almost parallel and lying below this silver belt, ranging from a point north of Ward to Breckenridge, Colorado, a distance of over 50 miles, lies what is known as the great sulphide belt, in which gold values greatly predominate and which have established the reputation of such rich producing sections as the counties of Clear Creek and Gilpin. The "Little Kingdom of Gilpin" is alone credited with an output in the past 40 years of over \$5,000,000. The territory between Central and Ward, which has been, so far as actual production is concerned, almost a terra incognita, is now being brought to the front by the El Dora excitement. That the values in this sulphide belt are continuous for the distance already named seems conclusively proved by the development made at intervals. A line drawn through Ward down California gulch, over Puzzler mountain, through Sunnyside

shipping values. The condition of the roads, or rather lack of roads, on the mountain sides, coupled with the heavy fall of snow, has up to this time prevented any heavy shipments, but the owners of the property are so well satisfied with the showing from the mine that they are pushing development work and getting the property in shape so that by the time the weather has settled sufficiently to permit wagon transportation it will be in good shape for active production.

Spencer mountain, on which the Enterprise and Village Belle properties, and a great many others, are located, seems to be the principal point around which the greatest interest centers. It may, in fact, be considered a sort of mineral hub of El Dora, notwithstanding the fact that Bryan, Chittenden, Mineral, Ute, El Dora, and other hills in the vicinity are showing excellent values in individual cases and give promise of making great producers over a large area with intelligent development.

#### WARD AND ITS NEW RAILROAD.

Despite panics and dull times and war and rumors of war, the portion of old Mother

reception and banquet, such as can only be given and enjoyed in a mining town.

From Boulder the road runs up Boulder creek to Four Mile, up the latter to Sunset, and from there winds about the mountain to the south side of Left Hand, up that to the head of California Gulch, and from there around a mountain into the old, historic town of Ward.

The Colorado & Northwestern Railway Co. was organized under the laws of Colorado, July 19, 1897, with capital stock of \$500,000, with authority to issue same amount of bonds. The incorporators are: E. C. Thompson, Meadville, Penn.; J. T. Blair, Greenville, Pa.; Charles W. Mackey, New York; M. F. Leech, Boulder, Colo., and Thomas S. Waltemeyer, Omaha, Nebraska. Through the courtesy of Mr. J. T. Blair we present herewith views of Ward, Sunset, Big Sandy Peak and others.

Ward is revolutionized, says the *Mining Reporter* of Denver. It is no longer the sleepy, rotting, dead town. It feels the stimulus of the greedy hunt for gold, and is roused into activity by the locomotive whistle. It has quadrupled in size in a year. It has good hotels, a school house, two churches,



PUEBLO SMELTING AND REFINING CO.'S. WORKS, PUEBLO, COLORADO.

and Sunset, El Dora, Pine Creek, Central, Idaho Springs, Georgetown and extending to Breckenridge and Leadville, covers a territory than which there is no more richly mineralized in the entire state of Colorado.

El Dora is too new to make final estimates as to its value as a mining camp with Cripple Creek pretensions, but it seems to be a generally conceded fact that so far as development has already gone, the showing is fully equal to that of its famous neighbor at the same age. The long line of stages that daily meet the train at Boulder show that the people are determined to see for themselves upon what foundation this boom is built.

In a general way it may be said that there are no surface mines in the sulphide belt, yet the Enterprise and Village Belle, on Spencer mountain, have shown pay values at depths of from 50 to 100 feet.

While the Village Belle has not been a shipper, it has a pay streak ranging from two to twenty inches, carrying tellurium and sylvanite along with the sulphide, which makes

Earth which yields the metallic basis of wealth—the worshiped and adored trinity of gold, silver and copper—are causing the construction of towns, mills and railways. There is no other portion of this sphere blessed with any different natural resource which is doing as much.

Two railways have been constructed in Colorado during the past year. They are the electric road at Cripple Creek, which winds from mountain to mountain and mine to mine, and the Colorado & Northwestern narrow gauge which extends from Boulder to Ward, a distance of 26½ miles. In that distance it climbs up 4,100 feet above Boulder, and ends just below the eternal snow banks, at an altitude of 9,450 feet. Tuesday, June 28, was the formal opening of the railroad to passenger traffic and business. It was made an occasion of an excursion from Denver and Boulder in which some hundreds of invited guests took part. To all who were present it will be a day long to be pleasantly remembered. The people of Ward gave a royal re-

fine buildings and stores, and is putting on metropolitan airs with modern improvements. It has numberless prospects undergoing development, and nine regularly producing mines. They are the Sullivan and Utica, on the Columbia vein; the Ward Chief, Ruby, Dew Drop, B. & M., Newmarket, Wirth, Star and San Blas. About 300 men are earning wages.

Ward is one of the old camps with an interesting history. It was there that the first Bruckner cylinder ever built was erected. It was there that the first successful chlorination mill in the territory was run, and it was there that the first bumping table built was used. Its history is a history of success and failure, worth knowing for the lessons they teach.

Of the old-time prospectors and miners who were there in the early days, a generation ago, only five remain. They are Cy. Dearhoff, John Wirth, Israel Benson, Miles Jain and Mike Moony. It is worth while meeting the old boys once in a while, and recount the events of the old flush days when the gulch

was rich and the blossom ran thirty-five ounces to the cord, when youth made the hair brown and eyes bright, when sour dough and our roast venison was better than a Brown Palace dinner today. It is good to have a reception and get together for a good time, for the ranks are growing thinner, and the people in the little old fenced yard on the hill are increasing in number, and by and by there will be none left to go to the feast, and the chairs will be empty.

#### GOLD LAKE.

The noted "Hoosier" dyke, near Gold Lake is a massive quartz vein, running easterly and westerly, and was formerly supposed to be a line of division between ore deposits of different characters, but more recent development shows the same character of ores. West of Gold Lake are a number of fine prospects, showing large bodies of sulphides carrying copper. Among these may be mentioned the President group, belonging to the Wellington Company. Major Jain has also struck some good ore at 45 feet, south and west of this locality.

#### THE GREAT SAN BLAS TUNNEL.

The San Blas mill is located at the point where this great quartz dike crosses Jim creek, near the mouth of the tunnel which opens the vein on the San Blas group. The latter shows a strong body of milling ore of low grade. This mill is about one and a half miles north of Ward, and two and a half above the John Jay mine.

It gives us pleasure to speak highly of so practical a company, capitalized at the modest sum of \$600,000, with a large portion of its stock in the treasury as Working Capital, and a new 10-stamp mill in full operation, without a dollar's indebtedness, and another mill soon to be added. Its property consists of nine claims and already eight mines (over 100 acres) in the heart of the great coming Ward district; the tunnel 900 feet into the Michigan Mountain with its innumerable veins, literally called a "Mountain of Ore," the Ann Arbor alone, being 57 feet wide, with 2,700 feet on the vein, averaging from \$4 to \$32 in gold per ton up to \$1,128.58, and a score more of veins yet to be tapped at the depth of 600 to 1,000 feet.

This tunnel is the key to many mines surrounding and lying in its track, which will gladly pay tribute for drainage and transportation of their ore to the coming railroad and many blind veins which will be cut and belong to the company. The present stamp mill is crushing 30 tons of ore per day and the company soon will be enabled to handle two or three times that quantity of its own ore, beside crushing upon a handsome royalty the ore of several adjoining mines.

To Dr. W. P. Gillingham, President and Treasurer, the stockholders may indeed be thankful for his early selection of these properties and their good management, as the whole enterprise cannot fail to pay them large dividends for many years to come. The other officers and directors are L. N. Putnam, Vice President; Maj. Miles Jain, General Manager; C. H. Gillingham, secretary; T. S. Deveau, director.

#### SUNSET.

The first prospects were located here twenty years ago, but, owing to inexperience in mining, and the high cost of treatment of ores at that time, the country has lain undeveloped until now, and has only existed as a name. Its geographical position—at the junction of Pennsylvania gulch with Four Mile creek and other smaller gulches—makes it a natural

distributing point; in addition to this fact, the mineral resources of the surrounding country are not inferior in extent and character to any camp in Boulder county. The lack of development is the prime factor that has heretofore prevented Sunset from becoming well-known as a producing camp. The formation is the same as the Sunnyside and Ward country—in fact, it is a part of the same. West of Sunset, half a mile, is located the "Dolly Varden," the best producing mine in the belt at this time, which is operated by the St. Anthony Mining Co., under the direction of E. A. Brandon as superintendent, under bond and lease. The mine had been worked years ago, and had a record at that time of producing nearly \$8,000.

#### THE PUEBLO SMELTING AND REFINING CO.

This company's plant is equipped with all the latest facilities for handling the immense variety of ores produced in the mountain regions of the United States, British Columbia and Mexico, and consequently is always a purchaser of all classes of ores.

The works were established July 1, 1878, and at present have a capacity of 1,000 tons of ore a day. The refining capacity is 350 tons of base bullion daily, yielding 300 tons refined pig lead, carrying 140,000 ounces of silver and 4,000 ounces of gold.

The railroad advantages offered at Pueblo have made it the smelting center of the state and the West. A half-day's visit to the works of this company amounts to a "liberal education in the reduction of ores, the extraction of precious metals and their refining for the markets of the world."

The management is at all times pleased to show visitors every attention and fully explain the methods employed.

#### COLORADO-PHILADELPHIA REDUCTION CO., COLORADO CITY.

This is one of the finest and most thoroughly modern chlorination plants in Colorado, which has not only been in successful operation since its establishment in March, 1896, but has expended \$60,000 in additions equaling fifty per cent. of its former capacity. The present capacity is 250 tons a day, producing from \$175,000 to \$225,000 a month in gold bullion. The ores handled, which are exclusively gold, are obtained chiefly from Cripple Creek. The present plan is the development and outgrowth of the works at Lawrence, which burned down a few years ago. Mr. C. M. MacNeill, vice president and general manager, was also manager of that plant.

#### THE CULBERTSON MILL.

The Culbertson mill, which is eastern terminal of the Colorado & Northwestern Ry., is a typical Colorado mill of great magnitude, located from three and one half to four miles from Boulder.

Colorado has been a school to many mill men, smelter-men and miners and it has been the birthplace of many of the most important improvements introduced into gold-milling practice and the gradual growth of the American mill, from the rough and clumsy machine of the early days to the magnificent and complete mechanism whose muffled thunder now echoes among the mining regions of Colorado.

Smelters are in better position to treat ores more economically today than they have ever been, which is due to their having made many improvements from a metallurgical as well as a mechanical stand point.

## CORRESPONDENCE

### MEXICO.

#### Guanajuato Mining News.

The United Mexican Mining Co., limited, of Guanajuato has been reorganized with sufficient capital to prosecute development work on a large scale. The mines belonging to this company have been worked since 1824, and their output of silver and gold-bearing ores runs into the millions. Information has just been received from the Refugio mine in the La Luz district, belonging to this company, that a large body of high-grade ore had been encountered. The shipments from this mine amounted to \$7,000 worth of ore the past week.

Mr. Williams, the manager, and Mr. Bryant, secretary of the company, have gone to the City of Mexico on important business connected with the reorganization of the company. During the past year, under the administration of Mr. Williams, dividends to the amount of twenty thousand pounds have been paid to the English stockholders.

The Guanajuato Consolidated Mining and Milling Co., of which Mr. J. T. Judd is general manager, are erecting a 20-stamp mill, with accommodation for an additional 60 stamps. The Boss Continuous process, by which amalgamation is used for the free gold contents of the ores and concentration for the silver contents, has been adopted at these mines. Work on the mill is progressing favorably.

The Bolanitos mine in La Luz district, owned by Mr. Jesus Andrade of Mexico City, has just cut a vein in the sinking of their shaft, carrying ore that assays high in silver and gold.

One of the most extensive metallurgical propositions ever attempted in Guanajuato is that of the Guanajuato River Gold Recovery Co., of which Mr. T. C. Salveter is president and Mr. Geo. W. McElhiney, secretary and treasurer. The original concession of this company embraces an area of twenty miles of the river bed of Guanajuato, which concession has just been extended to include 15 miles of additional territory below Marfil.

The Guanajuato river has received the tailings of the many Haciendas of that famous mining camp, since the year 1540, and the immense amount of available sand carrying gold, silver and amalgam of these metals with mercury is practically incalculable and five million tons is a low estimate. The test and assays made on the crude material containing gold, silver and copper, have demonstrated these tailings to be of sufficient value to justify the construction of an immense plant to recover the precious metal contents. Samples taken from bedrock have assayed as high as \$140 per ton in gold. The question under consideration now is to ascertain and establish the best and most economical system of treatment to be adopted for the extraction of the precious metal contents and for this purpose a thorough sample of these deposits is to be taken at various intervals along the river bed and shipped to the testing plant of Heckleman & McCann, in the City of Mexico, where a series of exhaustive experiments will be made by the various processes in use.

While all the smelters are not running to their fullest capacity at the present time, it is known that they are putting through a larger tonnage during this year than they have for some years past.

## UTAH.

SALT LAKE CITY, July 15, '98.

**EDITOR JOURNAL:**—The Utah mining stock market was only moderately active this week. The hot weather and general disinclination of operators to trade were the causes that made up a quiet market.

Ajax continues in the even tenor of its way, with just a show of strength now and then. Alice, Alliance and Anchor succeeded in making quotations, but that was all. Bulion Beck's failure to close an ore contract was undoubtedly the cause of the sagging tendency of the stock; which is now quoted lower than for some months past. The dividend of 10 cents per share, or \$10,000, was paid yesterday. The total dividends paid to date amount to \$2,505,000.

No reports of an interesting character are coming in from the Centennial-Eureka and the situation remains unchanged, with the single exception that the stock is being offered at somewhat lower figures. There has been a cessation of rumors of dividend resumption. As predicted in my letter of last week, Chloride Point was pushed up rapidly on inside buying. The news relative to the operations at the new mill is of the most meager nature and very little if anything of importance will be given out until it is fully demonstrated that the mill will work the ore successfully.

Dalton has levied an assessment of one-half cent per share, payable on or before August 9th. There was a slight demand for Dalton & Lark, and the same may be noted of Daly. Daly-West was stationary.

Grand Central paid its second dividend of \$31,250 today, which carries the total to \$62,500. The mine's physical condition continues to improve. The stock stands steady around \$7 per share. Homestake has levied an assessment of one cent per share, payable August 13th. Little Pittsburg was steadily bid for around 2½ cents.

Mammoth was in demand but at unchanged quotations. Shipments from the mine continue regularly and there is nothing new to report. I expect the usual dividend to be declared this month. Mercur declared its usual dividend of 12½ cents per share, or \$15,000 on the 9th, payable on the 20th. It is stated that the mill increase to 350 tons per diem will be completed in about thirty days. With this increased tonnage, the net earnings should be between \$26,000 and \$28,000 monthly, against dividend payments of \$25,000. Under these conditions the stock is a purchase under \$7.50 per share, paying 20 per cent annually at that price. Northern Light's assessment was paid only to the extent of 150,000 shares, the balance are advertised as delinquent. I think it will be generally paid before the date of sale.

Omaha's legal difficulties have been satisfactorily adjusted and the property will be worked and the stock will probably advance.

Silver King's dividend of \$37,500, paid on the 11th, carried the total to \$1,612,500. Sacramento declared its regular dividend of ½ cent per share, or \$5,000, payable on the 30th. The stock was a trifle weaker and the offerings very free. Sunshine was stronger and in demand at higher quotations. Swansea was in demand, but weakened a trifle in the offerings. South Swansea was rapidly absorbed at lower figures. It is probable that this month's dividend will be passed.

A new stock is added to the list this week—the Young America, near the famous Dexter mine at Tuscarora, Nev.

## Miscellaneous Mining News.

## ALASKA.

A body of almost pure copper has been discovered in Alaska. The copper is located between the White and Copper rivers. A few months ago, an old prospector went to Robert Duncan, Jr., the superintendent of the Treadwell mines at Juneau, and showed him a piece of ore of apparently wonderful richness. It was sent to San Francisco, and on being assayed was found to contain 94 per cent copper, \$30 in gold to the ton and a small amount of silver. The statements of the old prospector who brought in the same of copper have been corroborated when he said that the ore is so pure that there is no need to smelt it in the north, but that it can be shipped to San Francisco and treated there at a good profit. This discovery is considered the most important that has been made in Alaska for a long time.

## ARIZONA.

## Lynx Creek Notes.

Comer & Sons sold a mine last week for \$15,000 to the Bradford company of Philadelphia. They received \$1,000 down and are to receive the remainder in time payments.

Ward Clark has sold the Old Shelton group of mines to A. G. Kennedy, general manager and agent for the Dave Denver company. The consideration was \$40,000.

Ex-Governor Trittle recently sold the old Trittle mine for \$5,000 cash.

Judge Griffin and W. R. Rowe each sold a mine recently. The former sold the Champion.

Besides the above mentioned mines, all of which intend putting a force of men to work, are the Pine Mountain and Hartsfield mines. The Pine Mountain is being worked by lessees, about 25 in number.

The Hartsfield is being worked by Mr. Milkins. This mine has recently been opened up and Mr. Milkins is simply sacking his money. He has been at Lynx creek for thirty years and is entitled to the comforts his money will bring him.—*Arizona Republican*.

## CALIFORNIA.

## AMADOR COUNTY.

## Jackson Development and Exploration Company.

The management of the Jackson Exploration and Development Company has decided to sink 300 feet deeper before crosscutting the ledge. A station has been cut at the 1000-foot level and is ready for development work there, and the shaft was sunk below the 1000-foot while the station cutting was going on.—*Amador Ledger*.

## Kennedy.

The last ten stamps of the Kennedy mine have been repaired, and now the forty stamps are again pounding away and in better condition to do effective work than they were when the mill was first constructed.

## CALAVERAS COUNTY.

## Spagnoli.

Dave Fisher has the shaft on this property, at Clinton, down about 100 feet, and is pushing it forward as rapidly as possible under the circumstances with which he has to contend.

## The Gwin.

The Gwin mine is seriously contemplating a shut-down, on account of a shortage of water; in fact, the story here is that they will shut down at the end of this week. They get water from the Campo Seco ditch, in which water has been getting scarcer daily during the past month.

## EL DORADO COUNTY.

## Nashville Gold Mine Development Company.

The Nashville Gold Mine Development Company has been incorporated; principal place of business, Sutter Creek, Amador county; capital stock, \$1,150,000, with \$150,000 subscribed. Charles P. Eels of San Francisco, E. C. Voorheis and John Ross, Jr., of Sutter Creek, J. F. Parks of Jackson, Charles W. Howard, Jr., of Nashville, directors. The old Havillah mine, owned by the Hendy estate, has been bonded to the company and is to be prospected and operated by it. It is the intention of the company to extend the Crawford ditch to a point west of Nashville. By so doing they will have over 500 feet fall.

At the Grand Victory mine, near Placerville, 30 stamps are crushing 65 tons of ore per day. Two standard rock breakers, seven four-foot Frue vanners and three Triumph concentrators are at work. The mill is operated by an eight-foot impulse wheel, under a seven-foot head. The mill, mine and grounds are lighted by electricity. The shaft is now down 265 feet from the adit level, which is 150 feet in depth from the surface. Stoping is in progress in the 100 and 200 foot levels. The ore runs from \$2 to \$10.

## INYO COUNTY.

The Inyo Mining Company, composed largely of Pomona business men, have recently commenced smelting, and are running through twenty-five tons of ore per day at the mine situated near Darwin.

## KERN COUNTY.

The most important find in the Randsburg camp so far has been the new strike of sulphuret ore in the Little Butte, at a depth of 500 feet. The ore body shows a five foot vein of dark, close-grained, blueish looking quartz and mills about \$15 free gold with the sulphurets worth about \$88 per ton. More than any thing else, it shows the permanency of the ledges as for the pitch of the ore chute the same vein passes under the Kinyon and Wedge, only at a greater depth. The Little Butte people are feeling mighty good over their prospects and employees take renewed courage.—*Randsburg Miner*.

## LOS ANGELES COUNTY.

Mr. R. E. Hudson, of the Tejunga mines, was in Action last week. He reports work on developing their mines progressing very good and if they had plenty of water they could pound out gold.

The new mill for the Puritan mine at Acton is nearly complete, and it will only be a few more days before it will be in running order. It is built near the Puritan mine, and promises to be quite an addition to the mining industry.

Some of the main shaft of the Red Rover has caved in, and a meeting of the company has been called to determine what improvements shall be made as soon as Senator White returns from Washington.

## MONO COUNTY.

Now that outside capital has become interested in the old Jordan mines at Jordan, the property will be put in shape for producing wealth for Mono county. There will be some improvements made in the mill and a concentrator, now on the road, will be put in.

Superintendent Pierce is expected to arrive at Lundy in a few days and will take charge immediately of the cyanide plant erecting there. Fifteen men are employed and work is being rapidly pushed to completion. The tanks are already in place.

## RIVERSIDE COUNTY.

It is expected that ten stamps will be dropping in the Dale district before the first of August. There is enough ore on the dumps now to keep the mills going night and day for six months.

## SAN BERNARDINO COUNTY.

E. L. Matot, who is interested in the Verde Antique Marble Quarry, in San Bernardino County, was exhibiting some twenty samples, in San Bernardino, last week, of the product of this property. Each sample was of different shading or color, and carries a very high polish. They will accompany the bid that the Verde Antique Marble Company will make for furnishing marble for the new post office at San Francisco. Blocks of almost any size can be taken out without the slightest flaw, and the marble can be used for either building or veneering purposes. The samples shown will make a beautiful wainscoting.—*Transcript.*

## SISKIYOU COUNTY.

The Blue Jay mine at Yreka, owned by C. B. Poole, is bonded for \$3500 by a Portland company. The development work done by the owner consists of two tunnels, the lower one tapping the vein at a depth of 250 feet.

It is reported that C. B. Jillson & Co., owners of the California Queen mine in Cotterwood district have made another rich strike. Ore that will assay \$150 per ton has been encountered, and the capacity of their five-stamp mill will immediately be doubled.

## TUOLUMNE COUNTY.

## Sonora Liftings.

It is said that big gold is being taken out of the Bonanza right along. Both in point of production and development it is the greatest pocket mine in the world.

The new hoist, one of the most powerful in the county, has been finished at the Mt. Jefferson. The mine is reported to be looking splendidly in all works.

At the Arbona no work is being done for the present, but to keep the underground workings dry. The main shaft is down 200 feet, and a contract is to be let shortly for sinking 300 feet more.

The mill on the now celebrated Providence has been completed and ten stamps will be started on the initial run in a few days. The mill is framed for twenty and the other ten will be put to work early in the fall. The ledge in the mine continues to grow bigger and richer.—*Union Democrat.*

## IDAHO.

## Seven Devils District.

Quite a number of copper mines are being developed in the Seven Devils copper section in Idaho. The Peacock mine has a 65-foot shaft and five or six open cuts exposing the vein, which is about 400 feet long and averages 120 feet in width. A tunnel 20x20 feet is being run to tap the vein at a depth of 50 feet below the 65-foot shaft. The output of the Peacock for June was 6000 tons of ore, which runs about \$300 to the ton. It is estimated that there are 100,000 tons of ore in sight at the mine. There are several other mines more or less developed, and others on the eve of being developed. At the smelter, which is located ten miles from Snake river and the same distance from the Peacock mine, there is smelted every day of 24 hours 32,000 pounds of copper ore, 5200 pounds of charcoal, 11,000 pounds of coke, 12,000 of iron, 4000 of slack and 26,000 pounds of lime. This turns out about three tons of metallic copper ore valued at \$900.

## MICHIGAN.

Notwithstanding the fact that not a ton of ore has been carried by the Northwestern Company from the Gogebic range to the ore docks at Escanaba this year, that the company has done the largest ore shipping business from the Escanaba docks that has been known for several years. Up to the present time nearly 400,000 tons of ore have passed over the docks. It is estimated that over 4,000,000 tons of ore will be shipped this season from Escanaba. —*Marquette Mining Journal.*

The Quincy mine will install a plant of hoisting machinery capable of raising rock from a depth of 8,000 feet—over a mile and a half.

The Baltic mine will begin producing copper not later than August 1. A three-mile railway extension between the mine and the stamp mill of the Atlantic Company, which is to treat Baltic copper.

Between ten and eleven thousand workmen are at present employed by the mines of the lake copper district.

## MINNESOTA.

The remainder of the machinery from the abandoned Platt mine, of the Marquette range, has been received at the Penobscott Mining Company's mine, in the Mesabe Range, and will be installed at once.

The Sparta Iron Company, in the Mesabe Range, is employing about 275 men, of whom about half are in the stripping contracts of Winston & Dear and Gulbranson Bros., the rest at mining. The mine will ship about 250,000 tons this year. There are four shovels at work in the mine, each of the contractors having one and the mining company two, one each in stripping and mining.

## MISSOURI.

The Black Mule Mining Company has five lots on the Iowa lease and two on the Kenwood lease. On the Iowa lease is a fine steam concentrating plant that will handle 150 tubs of dirt and make ten tons of zinc ore each shift. One face is 55 by 12 feet and an-

other 26 by 18 feet, and the two faces 12 by 16 feet. At present the company employs 17 men and pays a large dividend every week.

Brownlee, McCallagh & Oompany have four lots on the Short Creek lease, at Central City, on which they have built a fine steam concentrating plant that will handle 300 tubs of dirt, and is making 10 tons of zinc ore every 10 hours. Drifting goes on at 85 feet on large face of zinc ore in timbering ground. In a second shaft, at 60 feet, is a good run of lead ore in yellow clay. The company makes 20,000 lbs. of lead ore weekly.—*Engineering and Mining Journal.*

## MONTANA.

## Takes a Three Years' Lease.

Gus Okerman of Armington, has just concluded a deal with W. G. Conrad and Paris Gibson of Anaconda, by which he gets a lease and bond for three years on the Barker, Gray Eagle and Equator mining claims, located in the Barker mining district. Mr. Okerman has started work on the Equator, where he has pumps and hoists on the ground, and is working three shifts of men. The tunnel on this claim is in about 50 feet. On the other claims about 100 men will be set at work as soon as they can be used. The development work on them is in about 200 feet already. The claim runs well on lead and silver, and the lessee expects to make them in a very short time into producers. This is another instance of the new life which is being exhibited in the mines of the Little Belts. They have lain idle, or many of them have lain idle, for several years; some few have been worked and these have shown that there is still money to be made in silver mining, and it is to the pluck of such few that the present revival may in a great measure be attributed. —*Helena Independent.*

## NEW MEXICO.

Output of Hillsboro gold mines for the week ending Thursday, July 14th, 1898, as reported for the *The Advocate*:

	Tons
Wicks .....	15
K. K. ....	10
Richmond.....	15
Snake Group.....	50
Opportunity.....	15
Sherman .....	5
Cincinnati.....	10
Trippie .....	25
Rex (silver-lead).....	5
Total .....	150
Total output since January 1, 1898.—4,180.	

## NEVADA.

## Silver Peak Items.

The Silver Peak mill shut down for a cleanup on the 2nd, after a month's run, and will start as soon as the necessary repairs are made. The mine is producing as much ore as the mill can crush. There is no reason for a shut down of either mine or mill for a long time to come.

It is understood that Sam Wasson has let a contract to run the Drinkwater tunnel. He has been working four or five men for the last few months there, and still has 200 feet to run before striking the ledge.

John Dern, president and manager of the

Mercur (Utah) Company, has been elected president of the Dexter Company of Tuscarora, Nev., and it is expected to prove beneficial for the Dexter Company's future operations. The Dexter is a rich mine and only needs a consistent management to bring it to the front as a dividend payer.

## OREGON.

### Virtue Mine Leased.

An agreement was reached between George W. Grayson, of Oakland, Cal., now in the city, owner of the Virtue mine, and O. G. Labaree, of Montreal, late of Spokane, July 11th, by which the former leases the Virtue mine to the latter for a period of 18 months. Mr. Grayson authorizes the statement that the papers will be signed tomorrow. Mr. Labaree holds an option on the Collateral mine, adjoining the Virtue, and the two mines will be worked jointly. Operations at the Virtue mine and mill will be resumed at once.

## SOUTH DAKOTA.

### Black Hills Notes.

The P. L. Gibbs ten-stamp mill has been started up again, after a short shut down. It will work on ore from the Omega mine, at Terraville.

On the first of the month, the lease held by W. E. Sharpe and associates on the Ulster group, at Ragged Top, expired and the owners of the property have concluded not to renew the lease, but will instead work the ground themselves. It is considered a rich proposition.

All of the steel frame work at the D. & D. smelter, which collapsed two weeks ago, has been replaced with the exception of one large beam which was so badly bent that it was thought best to send for a new one. Work has been retarded some time on the building on account of the unfortunate mishap.—*Black Hills Mining Review.*

## UTAH.

### The Great De La Mar Mill.

The tankage capacity of the great De La Mar mill at Mercur is to be doubled. So is that of the roasting plant. These conclusions have been arrived at by Capt. De La Mar, their owner, since his recent visit to the plant and property. It may be said that of the known ore bodies there is enough ore with which to supply the mill for at least five years. The captain does not believe in devoting five years to the extraction of these ore bodies, however, when it can be accomplished in less time, and it is on this principle that he has decided that the tankage must be doubled at once. At present the mill has a tankage capacity of 2,500 tons. The intention is to increase it to 5,000 tons. For this space was reserved when the first set of tanks were undertaken, and it will be no interference with these already in place to put in the additional set. The same may be said of the roasting plant. The enlargement may be made without necessitating a close down.

## WASHINGTON.

### Republic Camp.

Capital seems to be seeking investment on all of the three great parallel belts or leads that run north and south through the Republic Camp. The iron dyke, which is practically against the granite on the west, is com-

manding special attention. The Copper Mountain mine, the Bryan & Sewell, and the two Growlers are especially prominent. It is said that the Orphan-Murphy group are offering a free working bond on their seven contiguous claims for the very low price of \$1000 per claim, when the parties bonding are satisfied.

The Republic Mining Co. shipped ten carloads of ore, of 20 tons each, during the month of June. Returns have been received from the smelter for the first five carloads. The following figures show that there has been little change in the value of the ore and are considered a truly remarkable exhibit of its uniformity. These figures are taken from the records in the office of the Republic mine:

First car—Gold, 9.86 ounces; silver, 8.7 ounces. Second car—Gold, 11.88 ounces; silver, 9.3 ounces. Third car—Gold, 10.52 ounces; silver, 9.1 ounces. Fourth Car—Gold, 10.34 ounces; silver, 9.9 ounces. Fifth car—Gold, 11.75 ounces; silver, 10.2 ounces. —*Miner and Electrician.*

## FOREIGN MINING NEWS

### BRITISH COLUMBIA.

"The Le Roi is not shipping at present but is simply pushing development, and meanwhile the smelter at Northport is shut down. The shaft is down 750 feet, drifts have been run to the limits of the claim, and the ore bodies thus opened are now being developed. The War Eagle is well developed and is said to have from \$3,000,000 to \$4,000,000 worth of ore in sight. It is shipping 200 tons a day to the Trail smelter, and is putting in a hoisting plant with a capacity of 1,000 tons a day. The other large shipping mines are the Center Star, Iron Mask, and Monte Christo." —*Mining Critic.*

### LOWER CALIFORNIA.

Messrs. Robert F. Harrison and Anthony Godbe, reputable Colorado mining men, have obtained an option on the Viznaga mine, at Mexican Gulch, Alamo district, from Messrs. Davis, Hartzel and others, of Los Angeles, Calif. While operations at the Viznaga mine have never entirely ceased, a change in the character of the ore, combined with other features which make much greater development necessary, has somewhat retarded work and require an expenditure to which the Viznaga Company, as at present capitalized, is inadequate. The Colorado gentlemen will directly commence exploiting, sinking the shaft to a greater depth and continuing the drifts.

### MEXICO.

#### Sonora.

In Cajon Canon, in the Altar district, close to Cerro Colorado and about eight miles from El Tiro mine, the Amarillas mine, the property of Mr. Thos. M. Verkes, is producing finely. The property is operated under bond by Messrs. Gibson and Doctor Bartleson. The ledge is from four to ten feet in width, and the ore is fine milling gold rock. Eight shafts, varying from 50 to 200 feet in depth, are on the property, with a great deal of development work, and it is estimated that there are 40,000 tons of high grade ore all ready for shipping. The mill will be started next month.—*Trader.*

## PERSONAL NEWS ITEMS

STEPHEN ROBERTS of San Francisco, and M. F. LEACH of Colorado, both well-known mining men' have been visiting Jordan, Mono county, Cal.

D. C. BOLEY, general manager of the Gold and Silver Extraction Company's cyanide plant and mines in Blacktail gulch, South Dakota, left for Chicago July 6th, to be gone ten days.

W. A. NEVILLS, the millionaire owner of the Rawhide mine, is in a critical condition at his rooms in the Palace Hotel, San Francisco. His doctor said: "He is quite ill with a bad heart attack, following grip. His condition is satisfactory, though somewhat serious."

F. W. JOHNSON, general manager of the Minneapolis Mining Company, South Dakota, left for Chicago last week on business connected with the company.

D. M. Hyman, the well-known Aspen mine owner, returned during the week to Denver, Colo., from a trip of several months in Europe.

J. C. KORTZ, of Cleveland, Ohio, and MR. W. E. BROOKS, two of the big owners of the Lida and Monarch mines at Leadville, were visitors to that camp

JAMES D. HAGUE, the widely known mining engineer, and president of the Tom Boy Mining Company, was in the city during the week, on his way home to New York from a visit to the west.

C. E. COXE has left Zacatecas, Mexico, to accept a position at Zocalpan, State of Mexico, as branch manager for the Lewis Company, miners of gold, silver, lead and copper.

C. C. BABB of the Geological Survey is arranging for government work in the vicinity of Missoula, Montana.

MR. C. L. WARFIELD, who is president of the San Juan Mining and Development Co., of Silverton, Colorado, but who is at present located at San Diego, Cal., where he is devoting his entire time to mining matters, very recently in a personal interview with a representative of the JOURNAL, stated that from a late letter received from W. A. PTALEMY, secretary of the company, he was informed that Ed STOIBER was offered \$5,000,000 for the Silver Lake property on June 1st, but has refused the offer as his price is \$6,000,000. MR. G. O. TINKER, the original locator of Silver Lake property, threw it up for the San Juan.

R. H. MURRAY of Detroit, Mich., spent a week in the Black Hills recently. He is one of the directors of the Detroit & Deadwood Mining Company that is operating at Two Bit.

H. F. BROWN of Chicago, who has been putting in roasting furnaces at the Golden Gate, Utah, mill, is recuperating at Auburn, Cal.

GARDNER F. WILLIAMS, superintendent and general manager of the Consolidated Mines, limited, of South Africa, controlling the Kimberley diamond mines, has been visiting relatives in Washington, D. C.

C. H. JAMES, who recently returned from South Africa, is in Shasta county, California, securing a lease from the Sierra Buttes Co. to work the old Uncle Sam mine.

GOE. F. HESSELMAYER, one of the pioneers of the Missouri zinc industry, which is now so prosperous, and the builder of the first zinc reducing furnace in that state, is now located at Kelpen, Georgia, as a mining engineer.

MR. F. E. JOHNSTON, who has just returned from a five months' trip to the Onida mines, 30 miles southeast of San Diego City, at what is called the Delzura location, reports that section improving. More people are coming in and there is a general interest taken by all. Prospects are very flattering.

DR. CABELL WHITEHEAD, assayer for the Bureau of the mint, treasury department, is in Seattle, Washington, establishing the Government Assay office in that city.

LEW E. AUBRY, the mining engineer, has returned from an examination of mining property in the Rademacher district, Kern county, Cal.

CAPT. J. R. DE LA MAR was recalled by cable to Paris and is now on the ocean. He did not visit his Nevada mines. While in Utah he announced that the report of MR. HARTWIG A. COHEN'S resigning as manager of his varied mining undertakings was entirely without foundation.

W. E. BARROWS of Philadelphia and D. T. Day, statistician of the United States Geological Survey, were at Weaverville and Junction City, Cal., last week, looking for platinum and iridium.

FRANCIS C. NICHOLAS, who has been for several months traveling in Colombia and Central America for the South American Exploration Company, has returned to New York. He reports general interest and activity in mining in those countries.

DR. GEO. S. BECKER of the U. S. Geological Survey, has sailed on the City of Puebla, which left San Francisco as a part of the fourth Manilla expedition. He will make a geological reconnaissance of the most important of the Philippine group, to be incorporated in a Government report on the mineral resources of that region.

## THE MARKETS.

NEW YORK, July 23rd, 1898

The following are the Silver, Copper and Lead quotations for the last two weeks:

	SILVER.	COPPER.	LEAD
July 8	59½	11 72	3 97½
" 9	59½	11 75	3 97½
" 11	59½	11 75	3 97½
" 12	59½	11 75	3 97½
" 13	59½	11 75	3 95
" 14	59½	11 62½	3 95
" 15	59½	11 62½	3 95
" 16	59½	11 62½	3 95
" 18	59½	11 62½	3 95
" 19	59½	11 50	3 95
" 20	59½	11 50	3 92½
" 21	59½	11 50	3 92½
" 22	59½	11 50	3 92½

what depressing influence on prices and the market eased off to 3.85c. St. Louis, and 3.95c. New York.

Spelter has ruled rather irregular and prices have again ceased off somewhat. July is quoted at 4.35@4.40c. St. Louis, and 4.50@4.55c. New York, while these figures can be shaded for August and September delivery.

## ANTIMONY.

Antimony continues strong, and we quote Cookson's 93c.; Hallett's, U. S. Star and Japanese, 91c.

## NICKEL.

Business still continues on unchanged lines and no alteration in prices can be reported. We quote for New York ton lots 33½c. and 36c per lb and for smaller orders 35½c. and 38c.

## TIN.

Prices in New York are, if anything, just slightly below the price at which tin can be laid down on this side. We have to quote for spot 15.55@15.65 and futures 15.65@15.75.

## PLATINUM.

Prices are now quoted at \$15 and \$16 per oz., New York. The London quotations are 58@60s per oz. Supplies are not large and prices are firm. For chemical ware, best hammered metal, Messrs. Eimer & Amend of New York furnish the following quotations: In lots of 250 grams or more, 56c. per gram; in lots of 100 grams or more, 57c. per gram; less than 100 grams, 58c. per gram; unmanufactured platinum will be supplied in same quantities at 2c. less per gram.

## POTASSIUM CYANIDE.

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Protect your pipes and boilers with Wm. Berkfeld's Fossil meal composition, packed in sacks, easy to transport anywhere. Send for facts and figures.

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2 Cedar Street, New York



Spanish buying has sustained the silver market. The probability is if orders from this source should be withdrawn, we would see quite a fall in silver.

The United States Assay Office in New York reports the total receipts of silver at 81,000 oz. for the two weeks ending July 23rd.

## COPPER.

At the beginning of the week the market showed more buoyancy, but the lower quotations from London received somewhat later were sufficient damper to drive buyers off.

For electrolytic copper we have to reduce to 11.37½@11.50c. for cakes, wire bars or ingots, and 11.15@11.25c. for cathodes. Casting copper is nominal at 11½c.

## LEAD

The opening was rather firm, but subsequently more lead came out both from first and second hands, which had some-

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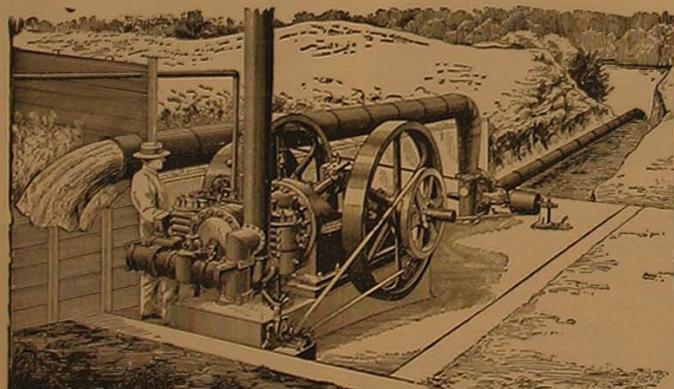
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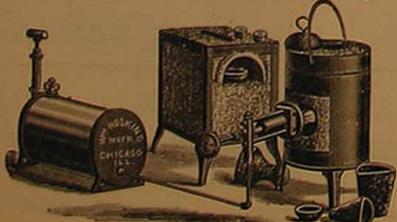
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QUICKSILVER.  
The New York quotation are at \$43.00 per flask.

The London price is £7. 12s. 6d. per flask with the same figure named from second hands.

## POWDER.

F. o. b., San Francisco: No. 1, 70 per cent. nitro-glycerine per lb, in carload lots, 15½c; less than one ton, 17½c. No. 1" 60 per cent., carload lots, 13½c; less than one ton, 15½c. No. 1" 50 percent. carload lots, 11½c; less than one ton, 13½c. No. 2, 40 per cent., carload lots, 10c; less than one ton, 12c. No. 2", 35 per cent., carload lots, 9½c; less than one ton, 11½c. No. 2" 30 percent, carload lots, 9c; less than one ton, 11c. Black blasting powder in carload lots, minimum car, 728 kegs, \$1.50 per keg; less car lots, \$2 per keg.

## COKE.

The coke market has been quite dull the past week, and entirely without features of interest.

## IN CAR LOTS, ST. LOUIS.

Connellsville fdy coke 72-hr. fry....\$4.85  
New River....\$4.00 Pocahontas....3.90  
Crushed.....4.85  
Gas works coke, lump, per bushel.. 10

## BORAX.

The San Francisco market in Borax is firm with a good demand.

The market is quoted as follows:

Refined, in carload lots, in barrels.....7½c  
Refined, in carload lots in sacks.....7½c  
Powdered, in car lots.....7½c  
Concentrated, in car lots.....7½c

## THE MINOR METALS.

Quotations are given below for New York delivery:

Aluminum:  
No. 1, 98 per cent. ingots, per lb.....33@40c  
No. 2, 90 ".....31@34c  
Rolled sheets, per lb.....38c up

Aluminum.—Nickel, per lb.....\$3.00@3.00c  
Bismuth, per lb.....\$1.30@1.30c  
Phosphorus, per lb .....40@50c  
Tungsten, per lb.....70c  
Ferro-tungsten, 60 per cent.....60c

Variations in price depend chiefly on the size of the order.

## CHEMICALS.

There has been no material change in demand for heavy goods.

Quotations generally are as follows:

## CAUSTIC SODA.

Quotations for Caustic soda domestic high test are \$1.40 @ 1.50 per hundred lbs.

## ALKALI.

Domestic, 58 percent, 50c. @ 55c., foreign 55c. @ 60c. from dock as to style of package.

## CARBONATED SODA ASH.

58 per cent., 90c and 95c. per 100 lbs. basis 48 per cent.

## BI-CARBONATE OF SODA.

English, \$2.12½ @ \$2.25 per 100 lb. American, bulk \$1.25 and \$1.50 per 100 lbs. according to brand.

## SAL-SODA.

For domestic, 50c. per 100 lb., less usual discounts; English, 62½c, and 65c Concentrated sal-soda, \$1.60 @ \$1.65 per 100 lbs.

## CHLORATE OF POTASH.

Chlorate of potash is quoted at \$8.25 and \$8.50 per 100 lbs.

## CHLORIDE OF LIME.

English prime brands \$1.60@\$1.65; Ordinary, \$1.70@\$1.80; Continental, \$1.40@\$1.50 per 100 lbs.

## Acids.

The market for the following acids lacks interest; has practically been at a standstill, through prices are pretty steady.

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Quotations are per 100 lb from New York and vicinity as follows: Acetic acid, commercial, No. 8, \$1.40@\$1.50; muriatic acid, 18°, \$1.10@\$1.75; 20°, \$1.20@\$1.87½; 22°, \$1.35@\$2.25; according to quantity and brand. Nitric acid 36°, \$3.50@\$4.75; 38°, \$3.75@\$4.62½; 40°, \$4@\$4.87½; 42°, \$4.62½@\$5.25. Oxalic acid, \$6.50@\$6.75. Mixed acid, according to mixture. Sulfuric acid, 66°, \$1.10 for drums and \$1.15@\$1.75 for carboys. Chamber factory. Blue vitriol \$3.50@\$3.62½ for extra grades and \$3.37½ for ordinary.

## BRIMSTONE.

Demand continues moderate. No arrivals are noted, and prices are: Futures lower and the quotations for cargoes to arrive is \$22.00 per ton and for best unmixed seconds with \$20.00 named for thirds.

## MURIATE OF POTASH.

We quote per 100 lbs. on basis of 80 per cent., as follows: New York and Boston, \$1.75 for 80@85 per cent., and \$1.81c. for 95 per cent.; Norfolk and Philadelphia, \$1.76½ for 80@85 per ct. and \$1.79½ for 95 per cent.; Charleston, Savannah, Wilmington, N. C. and New Orleans, \$1.78½ for 80@85 per cent., and \$1.81½ for 95 per cent. All for lots of 50 tons and upward.

## KAINIT.

Invoiced weights as taken at port of shipment per ton of 2,240 lbs. testing 12.4 per cent. actual potash, equivalent to 23 per cent. sulphate of potash, \$8.55@\$8.80 for New York and Boston; \$8.90@\$9.15 for Norfolk, and Philadelphia; and \$9.05@\$9.30 for Charleston. Sa-

vannah, Wilmington, N. C., and New Orleans.

## NITRATE OF SODA.

Market is heavy, supply being large and several arrivals expected soon. Prices for spot have been quoted at \$1.55 up to \$1.62½, according to seller, while future shipments can be had for \$1.57½ @\$1.60 per 100 lbs.

## FINANCIAL NOTES.

The statement of the United States Treasury, on Thursday, July 14th, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date last week:

	July 14	Changes.
Gold.....	\$175,627,751	1. \$5,947,553
Silver.....	11,011,324 I.	-1,000,000
Legal Tenders.....	42,565,752 I.	6,703,332
Treas' Notes, etc.....	3,222,701 I.	533,037
 Totals.....	 \$232,427,553 I.	 \$13,598,893

Treasury deposits with national banks amounted to \$53,352,093, an increase of \$7,133,807 during this week.

## Average Monthly Prices of Silver.

In New York per ounce Troy, from January 1st, 1898, and for the years 1897 and 1865:

Month	1898	1897	1865
	Cents.	Cents.	Cents.
January.....	56.77	64.79	67.13
February.....	56.07	64.67	67.67
March.....	54.90	63.08	68.40
April.....	56.02	61.85	67.92
May.....	56.98	60.42	67.75
June.....	58.61	60.90	69.50
July.....	59.61	68.75	
August.....	54.19	67.34	
September.....	55.24	65.68	
October.....	57.57	66.05	
November.....	57.91	64.93	
December.....	58.01	65.24	
Year.....	59.79	67.75	

## Gold and Silver Exports and Imports.

At all United States ports, June, 1898, and years from January 1st, 1898 and 1897:

	Coin and Bullion Exp.	In Ores Imp.	Imp.
Gold—	\$ 375,529	\$ 3,184,774	\$ 145,838
1898	6,048,560	99,244,751	72,441
1897	25,000,717	3,715,240	93,188

	Silver—	In Ores Exp.	Imp.
June	4,156,659	799,755	1,229,048
1898	24,357,928	3,202,116	9,216,271
1897	27,894,900	4,419,889	259,150

This statement includes the exports and imports at all United States ports, the figures being furnished by the Bureau of Statistics of the Treasury Department.

Specie shipments by water from San Francisco in June included \$3,592,390 gold, all for New York, and \$602,753 silver, the latter made up of \$298,886 Mexican dollars, \$31,717 Peruvian sols, \$2,700 United States Coin, and \$269,450 bars. For the six months ending June 30th the shipments were as follows:

	Gold	Silver	Totals
Hong Kong.....	\$21,438	\$2,408,492	\$2,429,930
Shanghai.....		196,578	196,578
Japan.....		3,000	3,000
India.....		415,900	415,900
Honolulu.....	195,000	27,000	222,000
Tahiti.....	2,411		2,411
Central America.....	22,425	193,957	216,352

	Total foreign.....	\$241,274	\$3,154,927	\$3,396,201
New York.....	19,432,155	364,476	19,796,631	
 Totals.....	 \$19,673,429	 \$3,519,403	 \$23,192,832	
 Totals 1897.....	 16,435,136	 \$4,735,955	 21,909,091	

The statement of the Bureau of Statistics for June puts the exports for that month at \$94,808,263, which is still a very high figure, while imports were \$51,267,591. For the fiscal year ending June 30th the statement is as follows:

Exports.....	\$1,050,933,556	1897.	\$1,231,311,868
Imports.....	764,739,412	1898.	616,552,844
Excess, exports.....	\$286,263,144	Add excess of exports, silver.....	\$ 615,259,074
Total.....	\$66,674,435	314,541,283	
Deduct excess of imports, gold.....	104,985,283		
Net apparent balance.....	\$ 542,687,152		

The gold and silver movement in detail will be found in the usual place at the head of this column.

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WANTED, by a young experienced man, position as quartz mill man, one who can keep mill running.  
Address, A. E. CHARLESWORTH,  
LOCKFORD, CAL.

WANTED, by a young man, a position as Assayer, etc.; experienced, competent and has a good knowledge of all metallurgical operations. Good references.  
Address, T. K. JOURNAL OFFICE,  
Stimson Block, LOS ANGELES, CAL.

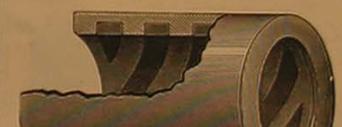
WANTED—Situation by Millman and As-sayer; Wages reasonable; Good refer-  
ences.  
Address "H"  
JOURNAL OFFICE

EXPERIENCED Assayer and Cyanide oper-  
ator desires engagement. The successful  
and economical treatment of slimy ore or tailings  
by cyanide a specialty.  
ADDRESS W. V. WATSON,  
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ADOLF FRESE  
ENGINEERING INSTRUMENTS

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The Graphite Lubricating Company

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Manufactured by the Western Chemical Co. Denver, Col.  
For Chlorination Refining and other processes. Also Muriatic and Nitric Acids, Blue Vitriol, Copperas Refined Sulphate of Soda, Etc.

ASSAYERS AND CHEMISTS  
WADE & WADE

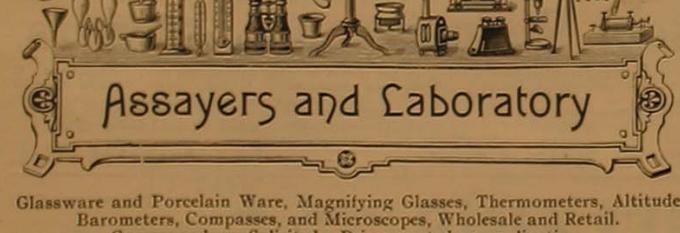
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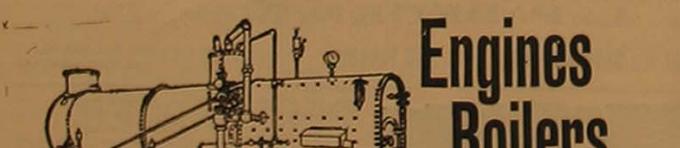
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MANUFACTURERS OF

Strictly Chemically Pure Acids and Chemicals and Ashless Filter Papers

EASTON, PENNSYLVANIA

## MINING STOCK QUOTATIONS

## BOSTON

Aetna Con.	3 38	do, rights	55
Allouez	1 75	Humboldt	4 75
Anaconda	16 88	Illinois Steel	50 00
Arnold	15 83	Lake Sup Iron	—
Ash Red.	23 00	Merced	—
Alameda	17 88	National	75
Baltic	—	New Idria Mg.	—
Bonanza	—	Old Dominion	28 00
Boston and C. C.	24 00	Oscoda	55 25
Boston & Mon'g 21 1/2%	24 75	Parrott	22 00
Butte & Boston	24 75	Pioneer	5 75
Calumet & Hecla 75 00	—	Quincy	118 1/2
Catalpa	—	San Ysabel	16 50
Centennial	16 50	Tamarack	165 00
Dominion Coal	—	Tecumseh	2 50
Dominion Pref. 18 3/4	—	Wolverine	23 00
Franklin	19 75	Wolverine	—

## NEW YORK

Alamo	03 50	Homesake	29 50
Alice	40	Iron Silver	—
Anneits	45	Mexican	30
Best & Belcher	60	Mollie Gibson	19
Brunswick	55	Ontario	4 50
Bulwer	—	Ophir	—
Crown Point	65	Pharmacist	10
Con. Cal. & Va.	—	Plymouth	—
Cripple Creek Con	08 50	Quicksilver	3 00
Deadwood	—	Quicksilver pf.	11 00
Favorite.	11 25	Sierra Nevada	—
Fortuna	45	Standard	1 60
Golden Fleece	45	Union Con	—
Gould & Curry.	45	Yellow Jacket	—
Hale & Norco s.	—	—	—

## COLORADO SPRINGS STOCKS

Alamo	02	Jack Pot	03 1/2
Anaconda	52 1/2	Lexington	—
Argentum Juanita	26	Lillie	90
Bob Lee	—	Magnet R	008 1/2
Creede & C. C.	03 1/2	Matoa	15
C. C. Consolidated	09	Mollie Gibson	24 1/2
Des Moines	—	Moon-A'-C'r.	74 1/4
Eikton Con	93	Mount Rosa	12 1/2
El Paso	—	New Haven	01 1/2
Fanny R.	16	Pharmacist	05
Favorite	—	Pilgrim C.	03 1/2
Fludley	—	Portland	99 1/2
Franklin Crater	—	Pr. Albert	61 1/2

## ROSSLAND, BRITISH COLUMBIA.

Golden Fleece	30	Specimen	—
Gold & Globe	—	Theresa	—
Hayden	005	Trachyte	00 1/2
Ing. Con.	06 1/2	Union Gold	01 1/2
Isabella	23 1/2	Work	02 1/2

## LOS ANGELES, CAL.

Amargosa	05	Lucky Star	—
Brown Lake	07 1/2	Magganetta	6 00
East Armagosa	60	Mohawk Action	50
Empire Copper	25	Old Dominion	03
Gold Bug	100	Pacific Con	1 25
Grand Central	02	Rand Mt.	1 25
Iron Mt.	02	Sun Dance	40
Laurel Mt.	02 1/2	Val Verde	1 50
Little Butte	15	Wedge	09 1/2

## SAN FRANCISCO.

Alpha	—	Exchequer	—
Alta Con.	10	Gould & Curry	—
Andes	09	Hale & Norcross	1 65
Belcher	23	Justice	55
Best & Belcher.	27	Mexican	21
Bodie	—	Ophir	80
Bron	10	Overman	—
Challenge	28	Potosi	21
Chollar	15	Sierra	10
Confidence	85	Sierra Nevada	67
Con. Cal. & Va.	19	Union Con	11
Con New York	—	Utah	07
Crown Point	13	Yellow Jacket	03

## SALT LAKE CITY

Alice	80	Lucky Bill	—
Ajax	34	Malvern	35
Adventure	25	Mammoth	1 90
Anchor	—	Maxfield	—
Buckee	05	Morgan	7 2 1/2
Bull, Beck	6 10	Northern Light	01 1/2
Cent. Eureka	40 60	Omaha	10
Chloride Point	55	Overland	—
Dalton	01	Richmond Ana.	—
Daly West	1 00	Richmond Ana.	—
Dalton & Lark	1 50	Ronada	05 1/2
Dexter	1 26	Rover	—
Eagle	05 1/2	Sacramento	62
Eureka Hill	—	Silver King	22 50
Four Aces	08 1/2	Slout Con	50
Gaiena	55	Sunbeam	09
Gemini	—	Sunshine	32 1/2
Geyser-Marion	78	Swansea	2 1 1/2
Grand Central	7 25	Swansea	1 17 1/2
Homestake	02	Utah	54
Horn Silver	1 42 1/2	Utah Con	40
Little Pittsburg	02 1/2	Young America	60

## DENVER STOCK REPORT.

Aetna	—	Keystone	00 1/2
Anaconda	51	Lillie	90
Arcadia	00 1/2	Moon A.	75
Argentum Junita	28	Mt. Rosa	12 1/2
Banner	07	Old Gold	00 1/2
Bob Lee	00 2 1/2	Peoples	01 1/2
C. C. Con.	08 1/2	Pilgrim C.	00 2 1/2
Elkton	50	Pine Creek	00 2 1/2
El Paso G.	06	Portland	—
Enterprise	02 1/2	Prince Albert	01 1/2
Gard. Grouse	08	Repub	01 1/2
Gore, Washington	00 3	Sacramento	02 1/2
Golden Eagle	34 1/2	Saint Paul	02 1/2
Gold Coin	93	St. Louis	00 1/2
Gilpin & C. C.	08 1/2	Union Gold	00 1/2
Gilpin Four	00 1/2	Virginia M.	00 1/2

Iron Glad	02 1/2	Wheel of Fortune	00 2 1/2
Isabella	23 1/2	Work	02 1/2
Jack Pot	03 1/2	—	—

## MEXICO

Name of Company	State	Price
Allanza	Hidalgo	5
Amitad y Concordia	"	24
Angustias	Guanajuato	710
Arevalo y Anexas	Hidalgo	210
Asturiana y Anexas	Zacatecas	250
Barradon y Cabras	Durango	300
Bartolome de Medina	Hidalgo	100
Cabezon y An.	Zacatecas	30
Candelaria de Pinos	"	150
Candelaria de Panuco	"	20
Candelaria de Chalchihuitán	"	50
Capuzaya	Durango	120
Carmelita	Hidalgo	250
Castellana y San Ram	Chihuahua	80
Cerro Colorado	Chihuahua	10
Cinco Señores y An.	Guanajuato	850
Concepcion y Anexas	S. Luis Potosi	260
El Oro	Guanajuato	40
Esperanza y An.	Mexico	1,300
Guadalupe	Guanajuato	180
Husutla	Santa Ana	100
Luz de Borda	Michoacan	40
Luz de Maravillas	Hidalgo	200
Pabellon	"	150
Paima	Zacatecas	5
Purisima de los Com.	Hidalgo	900
Real del Monte	Hidalgo	900
Refugio y Va	"	50
Restauradora	Durango	50
Rosario de las Rosas	Hidalgo	270
S. Francisco	Hidalgo	100
S. Ped. Chalchihuitán	"	925
S. Rafael y Anexas	"	100
do. Free Stock	"	100
do. Rafael del Oro	Hidalgo	20
Site. Maria de la Paz	S. Luis Potosi	750
Sirena	Durango	30
Soledad	Hidalgo	100
Sorresa	"	250
Trinidad	Guanajuato	27
Tlauzingo	Puebla	260
Union	Hidalgo	15
Zaragoza	"	100
Zomelahuacan (gold)	Vera Cruz	160
Zona Min de Pozos	Guanajuato	5

Note.—The above Mexican stocks are figured on the basis of Mexican silver

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\*\*\*

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Air CompressorsMODERN, DURABLE AND  
GUARANTEED to do the Work.

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AIR COMPRESSOR



ROCK DRILLING

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New York City

## INCORPORATED MINES PAYING DIVIDENDS.

	NAMES OF MINES	LOCATION	No. of Shares	Capital Stock	Par Value	Amount of last Dividend	Date of Last Dividend	Total Amount Paid in Dividends	Kind of Mineral Produced
1	Aetna Cons.	California	100,000	\$ 500,000	\$ 5	\$ 10	Sept 1897	\$ 110,000	Q.
2	Ajax	Utah	300,000	3,000,000	10	.....	Oct., 1897	1,000,000	G, C, S, L.
3	Alaska, Treadwell	Alaska	200,000	5,000,000	25	35½	October, 1897	3,250,000	G.
4	Alaska Mexican	Alaska	200,000	1,000,000	5	10	Oct., 1897	297,031	G.
5	Alice	Montana	400,000	10,000,000	25	03	Oct 1897	1,055,000	G.
6	Alice	Utah	400,000	10,000,000	25	05	April 1898	1,075,000	S, L, G.
7	Anaconda	Montana	1,200,000	30,000,000	25	1 25	May 1897	3,750,000	C.
8	Anchoria Leland	Colorado	600,000	600,000	1	01	July 1898	144,000	G.
9	American Gold	Colorado	300,000	3,000,000	10	02	Mar 1898	291,000	G, S, L.
10	Atlantic	Michigan	40,000	1,000,000	25	1 00	Feb. 1897	740,000	S.
11	Bald Butte	Montana	250,000	250,000	1	03	Sept 1897	512,500	G, C, S.
12	Bangkok C-Bell	Colorado	600,000	600,000	1	01	July 1896	107,510	S, L, G.
13	Big Six	Colorado	500,000	500,000	1	00½	May 1898	15,000	G, S.
14	Boston & Montana	Montana	150,000	3,750,000	25	3 00	Aug 1897	6,275,000	G, C, S.
15	Bullion Beck and Champion	Utah	100,000	1,000,000	10	50	Mar 1897	2,485,000	G, S.
16	Bunker Hill and S.	Idaho	300,000	3,000,000	10	05	Oct 1897	324,000	S, L.
17	Cariboo	British Col.	800,000	800,000	1	02	May 1897	156,965	G.
18	Calumet & Hecla	Michigan	10,000	2,500,000	25	10 00	Oct 1897	50,850,000	C.
19	Centennial Eureka	Utah	30,000	1,500,000	50	1 00	Mar 1897	2,010,000	S, L.
20	Central Lead	Missouri	4,000	400,000	100	1 00	Oct 1897	16,000	L.
21	Charleston	South Car.	10,000	1,000,000	100	1 00	Feb 1897	150,000	.....
22	Champion	California	34,000	340,000	10	25	Aug 1897	278,200	G.
23	Chloride Point	Utah	500,000	500,000	1	01	Dec. 1897	5,000	G, S.
24	Crescent	Utah	24,000	600,000	25	.....	July 1897	280,000	.....
25	Daly	Utah	150,000	3,000,000	20	25	Mar 1897	2,925,000	S, L.
26	Deadwood Terra	Dakota	200,000	5,000,000	25	40	June 1897	1,320,000	G.
27	De Lamar	Idaho	400,000	2,000,000	5	25	Jan 1897	2,250,100	S, L.
28	Della S.	Colorado	1,000,000	1,000,000	1	10	Jan 1897	60,000	G.
29	Doe Run	Missouri	5,000	500,000	100	50	October 1897	.....	L.
30	Elkton Consolidated	Colorado	1,250,000	1,250,000	1	01½	July 1898	555,710	G, S.
31	El Paso	Colorado	650,000	650,000	1	01	Jan 1898	12,093	G, S.
32	Eureka Hill	Utah	10,000	1,000,000	100	.....	1897	1,850,000	.....
33	Florence	Montana	500,000	2,500,000	5	01	May 1897	132,530	S.
34	Galena	Utah	100,000	1,000,000	10	05	Jan. 1897	71,000	G, S, L.
35	Garfield Grouse	Colorado	1,200,000	1,200,000	1	01	Feb. 1897	24,000	G.
36	Gemini	Utah	5,000	500,000	100	.....	1897	500,000	.....
37	Geyser-Marion	Utah	300,000	1,500,000	5	02	May 1898	84,000	.....
38	Golden Fleece	Colorado	600,000	600,000	1	01	Feb. 1897	569,179	G, S.
39	Gold Coin of Victor	Colorado	1,000,000	1,000,000	1	01	June 1898	80,000	G.
40	Golden Cycle	Colorado	21,000	1,000,000	5	00½	June 18	150,030	.....
41	Gold Coin	Colorado	200,000	1,000,000	5	05	Nov 1897	160,000	G, S.
42	Gold and Globe	Colorado	750,000	750,000	1	3-10	July 1897	51,625	G.
43	Hecla Consolidated	Montana	30,000	1,500,000	50	50	Feb 1897	2,175,000	S, G, I, C.
44	Helena & Frisco	Idaho	500,000	2,500,000	5	04	August 1896	475,000	S, L.
45	Highland	S. Dakota	100,000	10,000,000	100	20	Oct 1897	3,424,918	G.
46	Holy Terror	S. Dakota	300,000	300,000	1	03	Sept 1897	18,000	G.
47	Homestake	Dakota	125,000	12,500,000	100	25	Oct 1897	6,431,250	G.
48	Hope	Montana	100,000	1,000,000	10	10	Nov 1897	732,252	S.
49	Horn Silver	Utah	400,000	10,000,000	25	05	April 1898	5,120,000	S, L.
50	Idaho	Brit. Col.	500,000	500,000	1	05	Mar 1897	152,000	.....
51	Iowa	Colorado	1,000,000	1,000,000	1	00½	June 1898	90,000	G.
52	Iron Mountain	Montana	500,000	5,000,000	10	01	Sept 1897	497,500	S.
53	Isabella	Colorado	2,250,000	225,000	100	00½	June 1897	270,000	G.
54	Kearsarge	Michigan	40,000	1,000,000	25	10	Aug 1897	160,000	C.
55	Last Chance	Brit. Col.	500,000	500,000	1	04	Jan 1897	42,000	S, L.
56	Le Roi	British Col.	500,000	2,500,000	5	10	Oct 1897	625,000	G.
57	Lillie	Colorado	1,000,000	1,000,000	1	01	July 1898	99,100	G.
58	Minnesota	Minnesota	165,000	16,500,000	100	1 50	July 1896	3,240,000	I.
59	Montana Ore Purchasing	Montana	40,000	1,000,000	25	01	October 1897	640,000	.....
60	Morning Star	California	2,400	240,000	100	8 00½	Sept. 1897	558,600	G.
61	Mt. Rosa	Colorado	1,000,000	1,000,000	1	02	Jan 1898	60,000	G.
62	Mercer	Utah	200,000	5,000,000	25	18	May 1898	1,088,000	G.
63	Mammoth	Utah	400,000	10,000,000	25	05	June 1898	1,250,000	G, S, C, L.
64	Moon Anchor Gold	Colorado	600,000	600,000	1	07½	July 1898	216,000	G.
65	New Elkhorn	Colorado	300,000	1,500,000	5	24	Sep. 1896	72,000	G.
66	New York & Hon. Rosario	Central A.	150,000	1,500,000	10	10	Oct 1897	832,500	S, G.
67	Napa	California	100,000	700,000	7	20	Oct 1897	870,000	Q.
68	New Idria Quicksilver	California	100,000	500,000	5	10	Sept 1897	20,000	Q.
69	Ontario	Utah	150,000	15,000,000	100	75	Dec. 1897	13,542,500	S, L.
70	Osceola	Michigan	50,000	1,250,000	25	1 00	June 1897	2,172,500	C.
71	Parrot	Montana	230,000	2,300,000	10	06	June 1897	1,492,080	C.
72	Pennsylvania Consolidated	California	51,500	5,150,000	10	05	Sept 1897	20,750	.....
73	Portland	Colorado	3,000,000	3,000,000	1	01½	June 1898	1,492,080	G, S.
74	Princess	Colorado	1,000,000	1,000,000	1	00½	Feb 1897	45,000	G.
75	Quincy	Idaho	100,000	2,500,000	25	4 00	August 1897	9,470,000	.....
76	Rambler-Cariboo	Brit. Col.	1,000,000	1,000,000	1	02	April 1897	40,000	.....
77	Raven	Colorado	1,500,000	1,500,000	1	01	March 1898	20,000	G.
78	Reco	Brit. Col.	1,000,000	1,000,000	1	50½	May 1897	187,500	S, L.
79	Sacramento	Utah	1,000,000	5,000,000	5	00½	June 1898	35,000	G.
80	Small Hopes Consolidated	Colorado	250,000	5,000,000	20	10	June 1898	3,300,000	S.
81	South Swansea	Utah	150,000	150,000	1	05	April 1898	90,000	S, L.
82	Standard	California	200,000	20,000,000	100	10	Sept 1897	3,757,888	G, S.
83	St. Joseph	Missouri	250,000	2,500,000	10	15	Oct 1897	24,000	L.
84	Silver King	Utah	150,000	3,000,000	.20	25	June 1898	1,575,000	S, L, G.
85	Slocan Star	Brit. Col.	2,000,000	1,000,000	0.50	05	Mar 1897	350,000	.....
86	Smuggler	Colorado	1,000,000	1,000,000	1	01	June 1898	1,035,000	S, L, Z.
87	Smuggler Union	Colorado	50,000	5,000,000	100	1,00	Oct 1896	150,000	G, S.
88	Swansea	Utah	100,000	500,000	5	05	June 1898	100,000	S, L.
89	Tom Boy	Colorado	200,000	2,000,000	10	10	Dec 1896	600,000	G.
90	Tamarack	Michigan	60,000	1,500,000	15	3 00	June 1897	4,950,000	C.
91	Union	Colorado	1,250,000	1,250,000	1	01	June 1896	73,000	S.
92	Utah	Utah	100,000	1,000,000	20	01	Dec. 1897	177,000	G, S.
93	Utah Consolidated	Utah	30,000	150,000	5	02	Sept. 1896	3,000	S, L.
94	Victor	Colorado	200,000	1,000,000	5	50	June 1898	955,000	G.
95	Vindicator	Colorado	1,500,000	1,500,000	1	05	July 1898	76,125	G.
96	Western Mine Enterprise	Montana	500,000	500,000	1	10	Mar 1897	12,000	.....
97	War Eagle	British Col.	500,000	500,000	1	06	October 1898	187,000	.....

S, Silver.

G, Gold.

L, Lead.

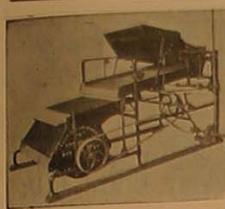
C, Copper.

Q, Quicksilver.

I, Iron.

B, Borax.

Z, Zinc.

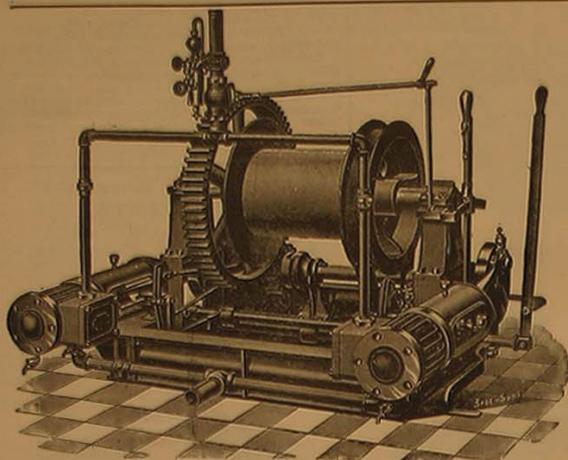
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If you are going to the Klondike or any other country to placer mining you cannot afford to be without one of our placer machines. It will work any class of placer ground, river or sea sands, it will take material down to four different grades, passing through the machine, a coarse screen is placed over the hopper to cut out the rocks and gravel; it is fed regularly onto this screen to catch any coarse gold that will not pass through the screen, the material then passes over the riffle table (steel Hungarian riffles) on to the screen over the amalgamating plates and cylinder, this fine screen cuts out all the coarse gauges, allowing nothing but the water and fine material to pass through the amalgamator, this avoids any scouring whatever. The screen over the cylinder has a side shake; the riffle table and hopper has an end shake moving both together, can be set at any pitch, each separately, can be run fast or slow to suit the work being done, this machine is just the machine for alluvies, as it requires very little water. By selecting one of our pumps the water can be used over and over again, a large amount of work can be done with a small amount of water, the pump will lift water 20 feet from a stream, even gold is saved this machine has no equal, it is light, simple, and durable, can be packed in the heaviest piece weighing 50 pounds, built almost entirely of metal, three sizes price \$50., \$60., \$80., capacity 10, 25 and 40 tons; weight 175, 400, and 550 pounds. PACIFIC MINING MACHINERY CO., 129 First St., San Francisco, Cal. Send for full descriptions.

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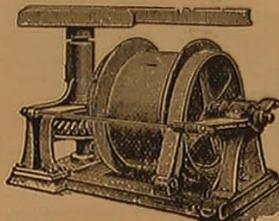
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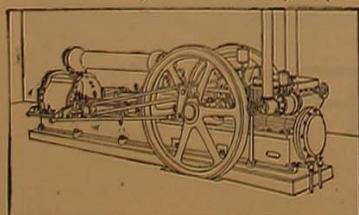
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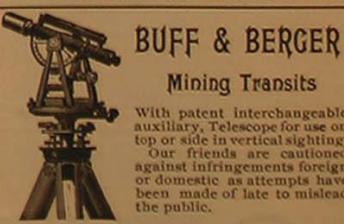
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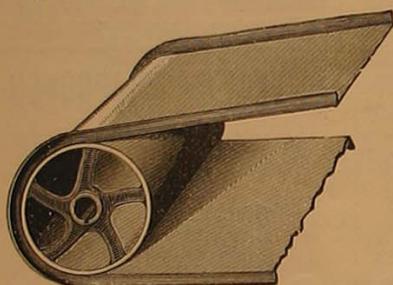
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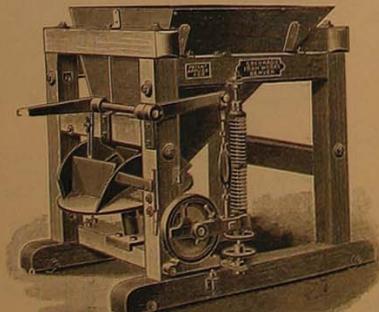
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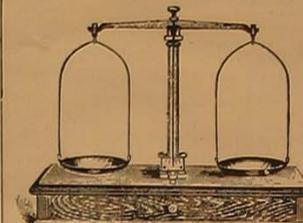
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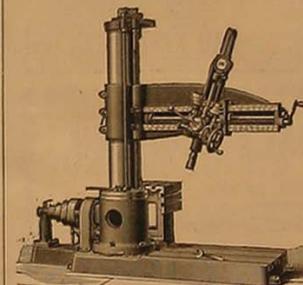
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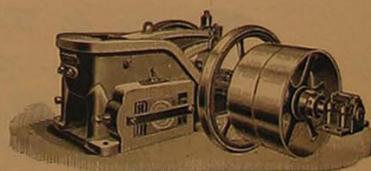
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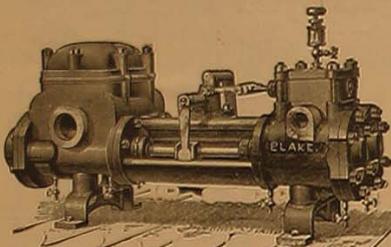
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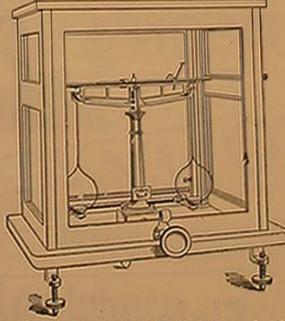
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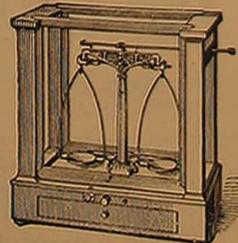
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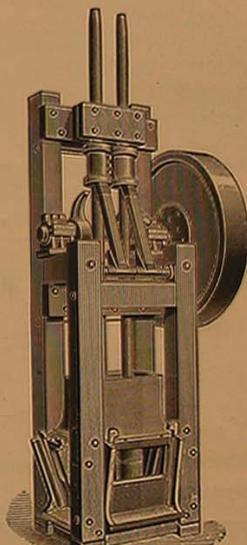
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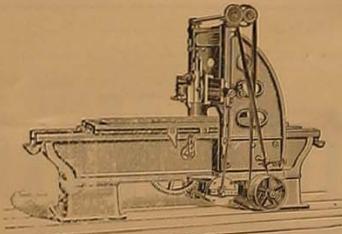
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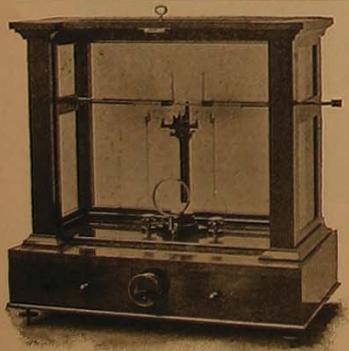
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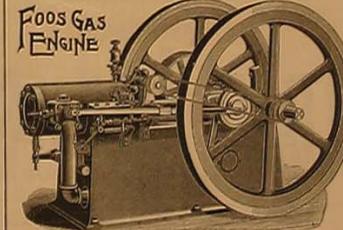
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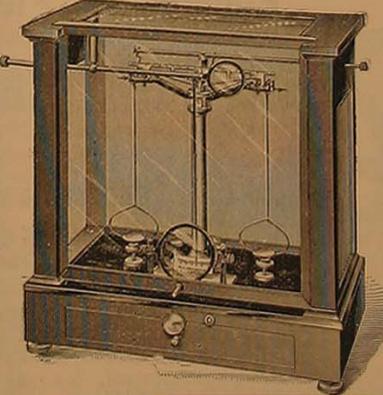
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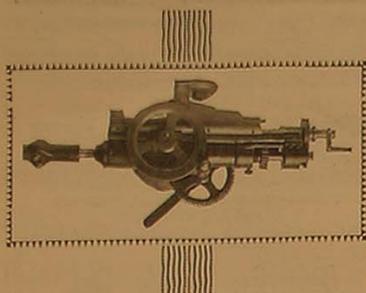
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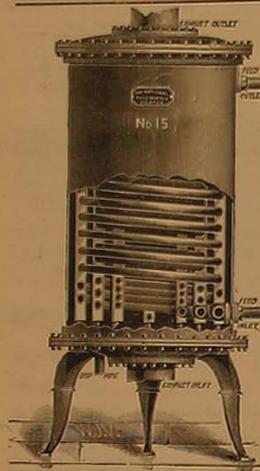
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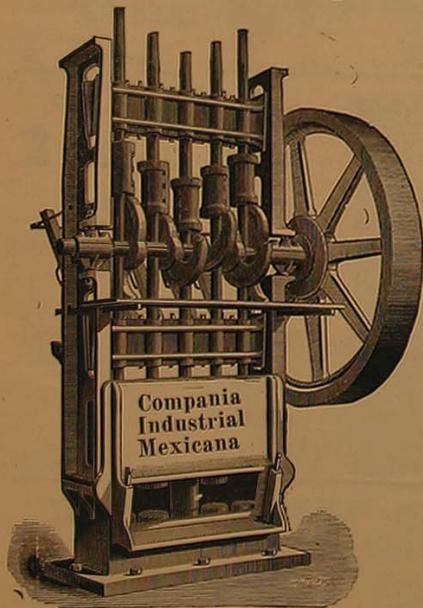
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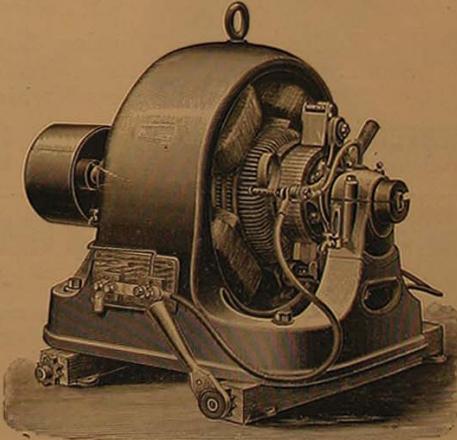
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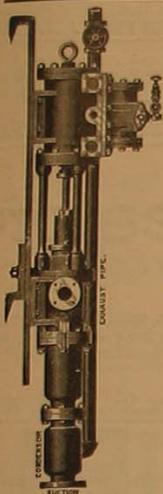
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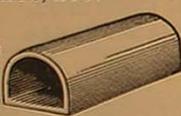
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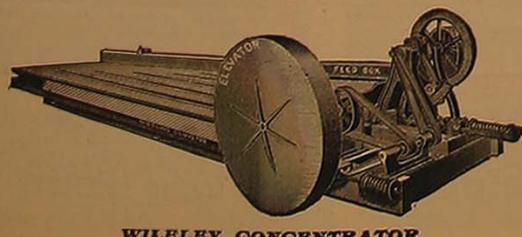
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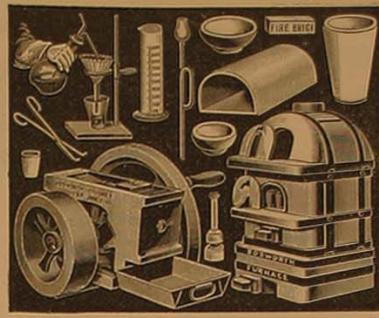


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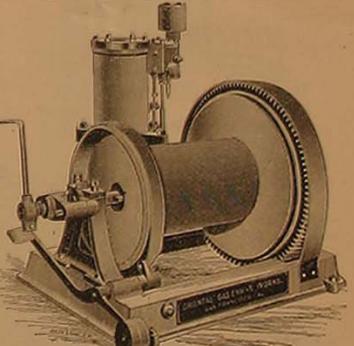
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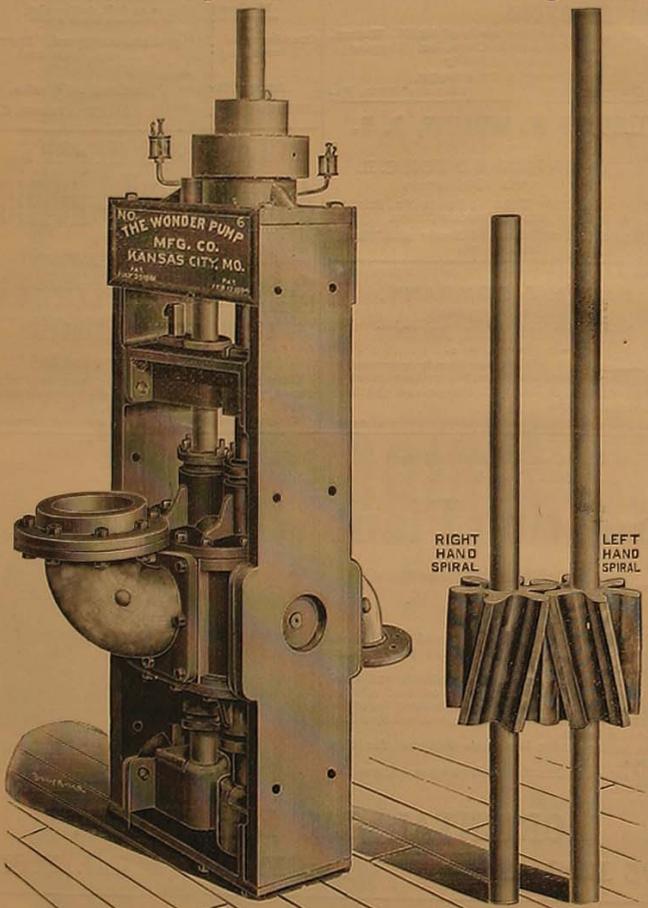
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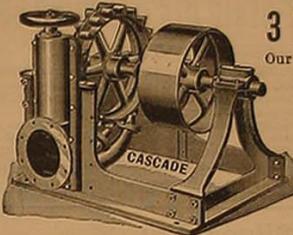
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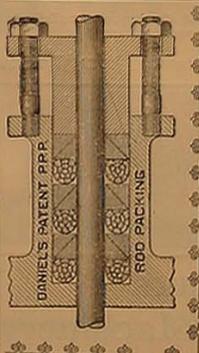
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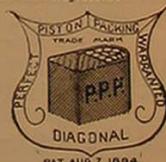
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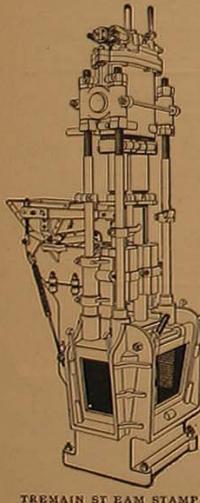
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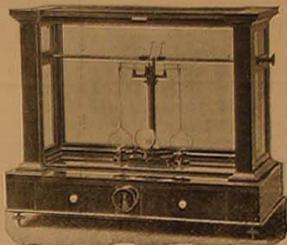
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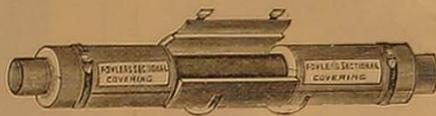
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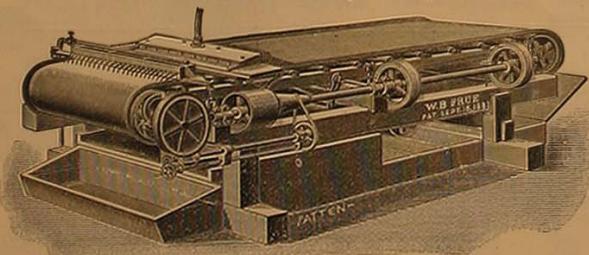
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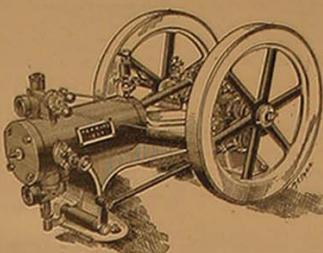
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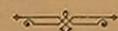
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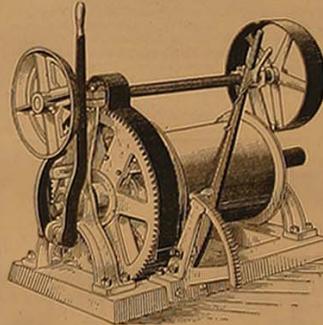


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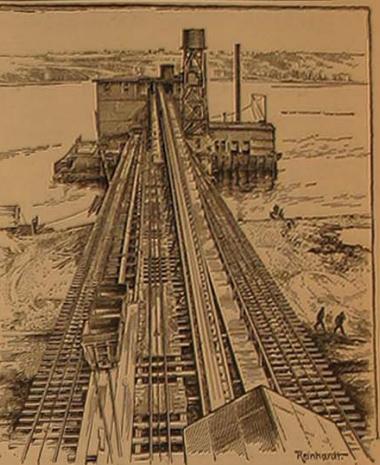
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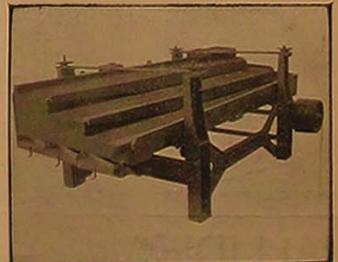
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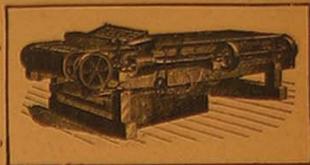
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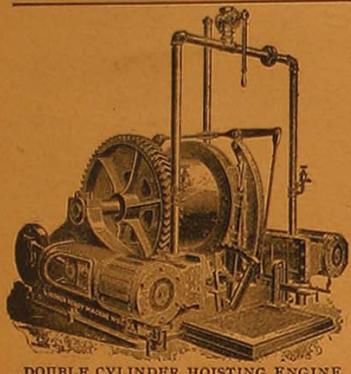
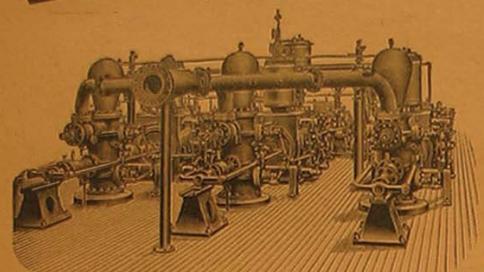
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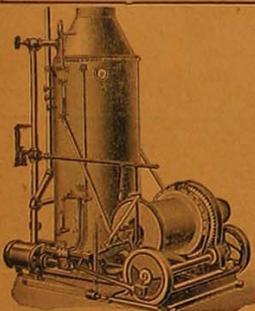
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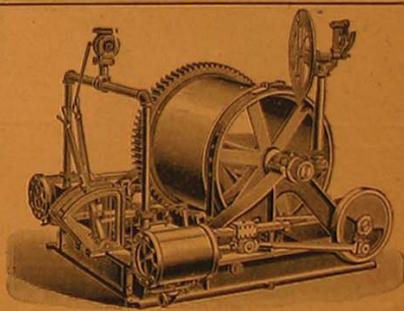
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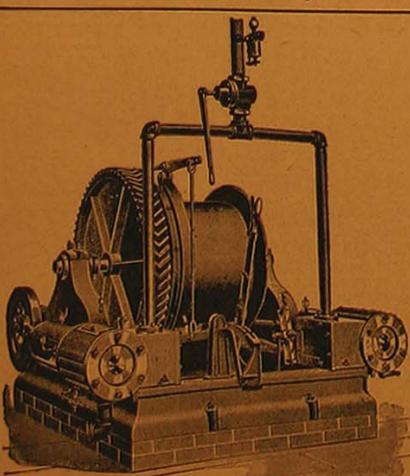
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